

**CONCEPTUAL SITE MODEL
FORMER ROMIC ENVIRONMENTAL TECHNOLOGIES CORP. FACILITY
LONE BUTTE INDUSTRIAL PARK
GILA RIVER INDIAN COMMUNITY, ARIZONA**

Prepared For:

Romic Environmental Technologies Corporation



Prepared By:

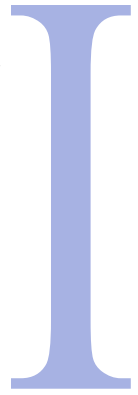
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6155 East Indian School Road, Suite 200
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**May 23, 2011
Project No. 212001**

in Participation with:

**ARCADIS U.S., Inc
14201 N. 87th Street, Suite 135
Scottsdale, Arizona 85260**

IRIS ENVIRONMENTAL



Via Email and US Mail

23 May 2011

John Moody, US EPA Project Manager
US EPA, Region IX
Waste Management Division
75 Hawthorne Street (WST-4)
San Francisco, California 94105

Re: **CONCEPTUAL SITE MODEL**
Consent Order, Docket No RCRA (AO)-09-2008-03
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona

Dear Mr. Moody:

Pursuant to paragraph 32 of the above-referenced Administrative Order on Consent, Romic Environmental Technologies Corp. ("Romic") is transmitting the enclosed Conceptual Site Model document (CSM) prepared by Clear Creek Associates, Inc., with input from ARCADIS US (formerly LFR) and Iris Environmental.

This CSM summarizes the current state of knowledge regarding the former Romic facility and the fate and transport of site related chemicals in the environment. We understand that this is a living document and acknowledge that it may be updated occasionally as new data is developed.

Please do not hesitate to contact me at (510)-834-4747 x21 or calger@irisenv.com if you have any questions or comments regarding this submittal.

Sincerely,

IRIS ENVIRONMENTAL

Christopher S. Alger, P.G.
Principal Engineering Geologist

cc: Glenn Stark, GRIC – DEQ
Esther Manuel, LBIDC
Wayne Kiso, Clarus Management Solutions

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LIST OF ACRONYMS

ADWR	Arizona Department of Water Resources
ADOT	Arizona Department of Transportation
AOC	Administrative Order on Consent
bgs	below ground surface
BTEX	benzene, toluene or xylenes
CA/FO	Consent Agreement / Final Order
cis-1,2-DCE	cis-1,2-dichloroethene
cis-1,3-DCP	cis-1,1-dichloropropene
Clear Creek Associates	Clear Creek Associates, PLC
COC or COCs	contaminant(s) of concern
CSM	Conceptual Site Model
1,1-DCA	1,1-dichloroethane
1,2-DCA	1,2-dichloroethane
1,1-DCE	1,1-dichloroethene
2,4-D	2,4-dichlorophenoxyacetic acid
DNAPLs	dense non-aqueous phase liquids
EPA	U.S. Environmental Protection Agency
GRIC	Gila River Indian Community
GRIC DEQ	Gila River Indian Community Department of Environmental Quality
HDPE	high density polyethylene
HWMU	hazardous waste management unit
I-10	Interstate 10
LAU	Lower Alluvial Unit
LBIC	Lone Butte Industrial Corporation
MAU	Middle Alluvial Unit
MEK	2-butanone (or methyl ethyl ketone)
MtBE	Methyl tert-butyl Ether
PCE	tetrachloroethene
PDB	passive diffusion bag
perched zone	perched saturated zone
PID	photoionization detector
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
Romic	Romic Environmental Technologies Corporation
RSL or RSLs	Regional Screening Level(s), updated May 2010
SMU or SMUs	solid waste management unit(s)
Southwest Solvents	Southwest Solvent Industrial Recycling
SR 202	State Route 202

SRV	Salt River Valley
SVE	soil vapor extraction
SVETS	soil vapor extraction treatment system
SVOC or SVOCs	semi-volatile organic compound(s)
SWMU	solid waste management unit
TCE	trichloroethene
TPH	total petroleum hydrocarbons
TSD	treatment storage or disposal
UAU	Upper Alluvial Unit
µg/L	micrograms per liter
VOC or VOCs	volatile organic compound(s)

1.0 INTRODUCTION

This conceptual site model (CSM) has been prepared in partial response to the November 19, 2007 Administrative Order on Consent (AOC) between the United States Environmental Protection Agency (EPA) and Romic Environmental Technologies Corp. (Romic). Romic completed this CSM report as required by Part B, Item 32, Section VIII of the AOC (EPA, November 2007). The former Romic facility was a waste recycling facility located in the Lone Butte Industrial Park in the Gila River Indian Community (GRIC) near Chandler, Arizona (Figure 1). Waste recycling was conducted at the site since 1975 when the former Southwest Solvents began operations. Romic reconstructed the facility and operated between 1988 and 2007. The facility has completed Resource Conservation and Recovery Act (RCRA) closure for the regulated units. The former Romic facility is considered by GRIC Department of Environmental Quality (GRIC DEQ) and EPA to be one of potentially several likely sources of volatile organic compound (VOC) impacts to an area of groundwater in the regional aquifer referred to as the “North Central Plume”.

Multiple site investigation programs have been conducted at and around the former Romic facility by various investigators. The results from prior investigations have been relied on as presented by those investigators to prepare this report. Clear Creek Associates, PLC (Clear Creek Associates) has not made an independent effort to verify the validity or accuracy of those results. Results from the site investigations and continued groundwater monitoring indicate that there are no significant undefined sources of contamination in the vadose zone or groundwater at the former Romic facility. Further, as detailed below, on-site remediation activities have been conducted to address the sources of contamination that had been identified in the vadose zone. The source of impacts has apparently been largely removed or controlled through the on-site remedial actions or through natural attenuation. However, off-gassing of low levels of VOCs may continue from a localized perched zone of saturation in a limited area beneath the former Romic facility. For convenience, this zone is referred to as a perched zone. As discussed in Section 3, there is no evidence to substantiate that this zone is

laterally continuous. Further, the data indicate that the perched zone is not in communication with the regional aquifer.

1.1 PURPOSE AND SCOPE

As required by the AOC, the purpose of this CSM is to address potential fate and transport of hazardous wastes and hazardous constituent releases to the soil and groundwater and pathways to actual or potential receptors. The objective of this CSM is to describe the basic understanding of the potential contaminant migration via the *regional aquifer system* to potential receptors. Potential exposure to contaminants in soil vapor at the former facility is being addressed through the implementation of a soil vapor extraction (SVE) remediation system. This CSM is not intended to provide a comprehensive compilation of results from previous site investigations or a quantification of exposure or risks. A detailed discussion of facility operations and a compilation of historical results were provided in the *Current Conditions Report* for the former Romic Facility prepared pursuant to the 2007 AOC (Clear Creek Associates, August 2008). The CSM will be updated at least annually, or more frequently if any significant new information is acquired during any remaining investigation and corrective actions stages that modifies the CSM of the former Romic facility as detailed herein.

1.2 REPORT ORGANIZATION

The details of the CSM report are presented in the following Sections.

- **Section 2: Site History** – This Section describes the historical operations, investigations and remediation activities implemented at the former Romic facility.
- **Section 3: Conceptual Hydrogeologic Model** – This Section describes the regional and local geologic and hydrologic conditions in the vicinity of the former Romic facility.
- **Section 4: Summary of Investigation Findings** – This Section summarizes the findings from the soil, soil vapor and groundwater investigations conducted at and in the vicinity of the former Romic facility. The primary contaminants of concern in the regional

groundwater plume are identified as well as other contaminants that have been detected at the former Romic facility and potential source areas on the former Romic facility are identified.

- **Section 5: Nature and Extent of Contamination** – This Section describes the distribution of contaminants in the regional aquifer in the vicinity of the former Romic facility as well as contaminant concentration trends.
- **Section 6: Potential Exposure Pathways** – This Section provides a narrative description of the known or potentially completed exposure pathways to contaminants in the regional aquifer.
- **Section 7: Summary of CSM of the former Romic Facility** – This Section provides a brief narrative description summarizing the conceptual site model regarding the trichloroethene (TCE) and tetrachloroethene (PCE) impacted groundwater plume resulting from historical operations at the former Romic facility.
- **Section 8: Data Gaps** – This section describes the data gaps in the vicinity of the former Romic facility.
- **Section 9: References** – This section summarizes the publications and documents referenced in this report.

2.0 SITE HISTORY

2.1 PRE-1989 OPERATIONS

The facility began operations in 1975 as Southwest Solvents and later as Southwest Solvent Industrial Recycling. For purposes of this CSM, these operations are collectively referred to as Southwest Solvents. Primary operations at Southwest Solvents consisted of hazardous waste recycling. While operating as Southwest Solvents, the majority of the site was unpaved, with the exception of the loading dock, the main building and four to five isolated material handling areas (Booz, Allen, Hamilton, November 2004). A series of aerial photographs of the Romic facility, reported to be from the late 1980s and early 1990s, were attached in a letter from Romic Environmental to Booz, Allen and Hamilton (Romic, 2003). A composite of two photographs reportedly taken from the late 1980s, prior to the facility being redeveloped by Romic, is included as Figure 2. In reviewing the photographs, the railroad car unloading area is evident in the northeastern corner of the facility as is a recessed truck ramp in the south-central portion of the facility. The VOC distillation unit appears to be located along the western border of the facility and drum storage areas are observed in several areas including an area to the southeast of the truck ramp. Following several EPA site inspections, Southwest Solvents was notified of numerous violations including unsatisfactorily operating a facility generating hazardous waste, unsatisfactorily operating a treatment storage or disposal (TSD) facility, and not furnishing information in conjunction with an interim status facility application. Based on these violations, EPA issued a Consent Agreement / Final Order (CA/FO) (RCRA-09-88-0002) to Southwest Solvents to investigate and remediate releases and dispose of excess waste at their facility. Shortly thereafter in 1988, Romic purchased the facility out of bankruptcy from Southwest Solvents.

2.1.1 Site Use Areas

Twelve solid waste management units (SMUs) were associated with the Southwest Solvent operations (SMU 1 through 12); however, limited data is available for these SMUs. SMUs 1

through 12 were no longer active following purchase and rebuilding of the facility by Romic. The available data for the former SMUs indicated several of the SMUs were unpaved and known to have releases, most notably SMU1 through SMU5 (Booz, Allen, Hamilton, 2004). SMU1 through SMU3 were drum storage areas and SMU4 and SMU5 were waste oil tank areas. Anecdotal information indicates that, during the period of Southwest Solvent's operations, the railroad spur may have been located in a slightly different alignment than its current location, and that the area where unloading operations was conducted was not secondarily contained. The estimated locations of SMUs 1 through 12 are shown on Figure 3. Additional information regarding the potential for releases at the facility during Southwest Solvent operations is presented in Clear Creek Associates' August 2008 *Current Conditions Report*.

2.1.2 Soil Cleanup Efforts

Prior to purchase of the facility by Romic, Kleinfelder Inc. (Kleinfelder) conducted a soil sampling investigation to assess existing site conditions (Kleinfelder, September 1987). From July 1988 through November 1988, Romic conducted multiple shallow soil sampling investigations at the facility prior to construction and upgrade activities. Several additional soil sampling investigations were conducted at the facility between November 1988 and July 1990. Soil analytical results indicated VOC concentrations (primarily PCE) above the laboratory reporting limits (HLA, December 1989). Based on the analytical results from the soil investigations performed between August 1987 and July 1990, Romic conducted soil excavation activities at the facility to remove impacted soils. Areas of contamination were identified and excavated in accordance with EPA approved work plans. The excavation areas are shown on Figure 4. The soil excavation and remediation activities were initiated in July 1991 and completed in August 1992.

Following soil excavation activities, a flexible high density polyethylene (HDPE) liner was installed beneath several of the concrete structures including each of the containment areas. The location and installation of the HDPE liner is summarized in Subsection 2.2.2, below. A detailed description of the soil excavation and liner installation activities is presented in Clear

2.2 POST-1989 OPERATIONS

Romic operated under interim status since 1988 when they purchased the facility from Southwest Solvents until it shut down in 2007. In January 1999, Romic was acquired by U.S. Liquids, and subsequently, acquired by ERP Environmental Services, Inc. in August 2003. The facility operated under interim status as Romic Environmental Technologies Corporation. In November 2007, Romic ceased operations at the facility after EPA determined it would not grant a RCRA Part B permit for the facility. Facility closure activities are summarized in Section 2.3.2, below.

2.2.1 Site Use Areas

Following completion of the soil sampling and excavation activities in 1992, construction of the facility upgrades was initiated and 16 new SMUs were established (SMUs 13 through 28). The SMUs included a container storage area on the north portion of the property, tank storage units in the center and western portions of the facility, and distillation processing units in the central portion of the facility. A rail spur was relocated along the eastern portion of the facility where railroad cars were loaded in a secondary containment structure. The facility laboratory was located in a building in the southwestern portion of the facility, and administrative buildings were located in the southern portion of the facility. The locations of the SMUs are shown on Figure 5. A composite aerial photograph from the early 1990s showing the former Romic facility after reconstruction activities were completed is included as Figure 6. Additional information regarding the SMUs is presented in Clear Creek Associates' August 2008 *Current Conditions Report*.

Operations at the Romic facility included fractionation, vacuum pot distillation, thin film evaporation, ethylene glycol recycling and fuel blending. Waste was received at Romic through rail car tankers, tanker trucks, and flatbed trucks which transported various types and sizes of

containers. The waste was then analyzed at the onsite laboratory, sorted and stored in tanks or drums. Based on the analytical results, the waste was either treated, recycled onsite or disposed of at an offsite facility (Booz, Allen, Hamilton, November 2004). The majority of the material from these processes was recycled; however, a small portion of hazardous waste was either generated during or remained after the recycling process (Booz, Allen, Hamilton, November 2004). This hazardous waste was shipped to Class I hazardous waste facilities for incineration or fuel blending. The facility accepted a variety of hazardous materials for recycling or treatment. On average, Romic received about 13,000 tons of waste annually from across the United States with a minimal amount of waste received from outside the United States, primarily from Mexico. Approximately half of the waste that Romic received was considered hazardous by EPA (EPA, August 2008).

2.2.2 Protective Systems

Following soil excavation activities in August 1992, the majority of the facility was reconstructed with concrete containment areas and paving. Romic essentially dismantled the structures associated with the operations of Southwest Solvents and rebuilt the facility (Booz, Allen, Hamilton, 2004). The 16 new SMUs were completed with various release controls including berms, secondary containments, sprinkler systems, sumps, and epoxy flooring. Romic implemented numerous upgrades to the facility including construction of a drum storage warehouse, utilizing the central area for processing, construction of a building to stage incoming and outgoing waste, relocation of tanks, and construction of a new tank farm. Upgrades to the existing railroad spur included installation of a secondary containment area capable of holding 3 times the capacity of one rail car (SAIC, 1992). A flexible HDPE liner was installed beneath several of the concrete structures including each of the containment areas at the former facility. The location of the liner is shown on Figure 7. The HDPE liner was installed approximately four to five inches beneath the concrete, with approximately one to two inches of pea gravel atop the liner and native soil beneath the liner (Iris Environmental, 2008). During the April 2008 soil vapor survey, boring RSG-031 was advanced in the vicinity of SMU25 to

confirm the presence of the HDPE liner. Prior to advancing drill rods at RSG-031, the fill material below the concrete was removed from atop the liner and the liner was inspected for the presence of liquids and/or staining. No liquids or staining were encountered atop the liner. The liner appeared to be intact and photoionization detector (PID) monitoring did not indicate the presence of VOC concentrations. Following probe advancement through the liner, and subsequent removal, PID monitoring of the open borehole indicated the presence of VOC concentrations. A detailed description of the soil excavation and liner installation activities is presented in Clear Creek Associates' August 2008 *Current Conditions Report*. Additional documentation of liner and containment integrity are presented in the August 2009 TSD Facility Closure Certification Report (Metro Environmental Services, 2009).

2.3 ROMIC SITE INVESTIGATION AND REMEDIATION ACTIVITIES

A number of soil, soil vapor and groundwater investigation and/or remediation activities have been conducted at the former Romic facility by Clear Creek and other consultants since 2007. The various investigation and remediation activities are summarized below. Details are contained in the specific investigation and remediation activity summary reports, as referenced below.

2.3.1 Groundwater Monitoring Well Installation Activities

Clear Creek oversaw the construction of a total of nine groundwater monitor wells, designated RE101 through RE109, on and in the vicinity of the former Romic facility in two phases. Each phase of the well installation activities is summarized below. Detailed descriptions of the well installation investigations are presented in Clear Creek Associates' January 2008 and October 2009 *Monitor Well Installation Completion Reports*.

2.3.2 2007 Well Installations

Seven groundwater monitor wells (designated RE101 through RE107) were installed on the former Romic facility in July 2007. The purpose of the initial monitor well installation program

was to construct fenceline monitoring wells in support of the RCRA Part B permit application. The wells were installed in accordance with an EPA approved Sampling and Analysis Plan (Clear Creek Associates, 2007a). Wells RE101 and RE102 were installed east and northeast, respectively, of the SMUs on the Romic facility to provide upgradient control of water quality conditions. Wells RE103, RE104, RE105 and RE106 were installed to be generally downgradient of the SMUs on the Romic facility based on the reported range of groundwater flow directions. Well RE107 was located to ensure down gradient coverage of the southern portion of the rail spur entering the Romic facility. Monitor well locations are shown on Figure 8. Table 1 summarizes the well construction details.

Subsurface soil samples were collected during the well installation to assess whether on-site activities impacted the soils at the facility. Soil samples were collected with a split spoon sampler and analyzed for VOCs, semi-volatile organic compounds (SVOCs) and RCRA metals. No VOCs or SVOCs were detected in any of the soil samples (Clear Creek Associates, 2008a). The concentrations of metals detected in the soil samples were consistent with the background levels seen in southwestern soils (Clear Creek Associates, 2008a). The soil sampling results from the 2007 well installation are summarized on Table 2.

Following installation, two rounds of preliminary groundwater quality sampling were conducted at wells RE101 through RE107 at five-foot intervals using the low flow sampling technique as set forth in the EPA approved Sampling and Analysis Plan (Clear Creek Associates, 2007a). Groundwater samples were analyzed VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and the RCRA metals by EPA Methods 6020, 6010B (selenium) and 7470A (mercury). Additionally, one profile sampling interval per well was analyzed for general chemistry parameters during the initial sampling effort. No SVOCs were detected in any groundwater sample. Arsenic was the only metal detected above the EPA maximum contaminant level (MCL). However, the arsenic concentrations observed in the downgradient monitor wells were comparable to the concentrations observed in the upgradient monitor wells and all results were generally consistent with the arsenic levels (e.g. background levels)

typically observed in groundwater in the arid southwest (Clear Creek Associates, 2008a). The results of the vertical profiling for VOCs are summarized in Section 4.2.3.2.1, below. Monitoring intervals for routine groundwater sampling were selected for each well based on the results of the vertical profiling. Sampling intervals were selected to monitor the zone of highest observed concentrations of VOCs. If no VOCs were detected or there were no significant differences in observed VOC concentrations in several zones, then the sampling interval was selected to be at the approximate same intervals as sampling intervals in adjacent wells.

2.3.3 2009 Well Installations

Two additional groundwater wells were installed in August 2009 to provide additional groundwater characterization upgradient and downgradient of the former Romic facility. The well locations are shown on Figure 8. Well construction details are included in Table 1. The wells were installed in accordance with an EPA approved, updated Sampling and Analysis Plan (Clear Creek Associates, 2009b). Preliminary groundwater quality sampling was conducted at depth discrete intervals using the low flow sampling technique noted above. Groundwater samples collected from the monitor wells were analyzed VOCs by EPA Method 8260B. The results of the vertical profiling for VOCs are summarized in Section 4.2.3.2.1, below. As discussed above, monitoring intervals for routine groundwater sampling were selected for each well based on the results of the vertical profiling.

2.3.4 Soil Vapor Survey

Drilling and installation of temporary soil vapor sampling implants were conducted by Clear Creek Associates and Iris Environmental in April 2008. The sampling implants were installed in borings drilled at each sample location using hydraulically-powered direct-push and/or solid-stem auger drilling technology. Each boring was completed as either a single or pair of nested sampling implants by advancing drill rods and/or augers to the total target depth (approximately 10.5 feet or 15.5 feet below ground surface [bgs]). Dual-depth soil vapor

sampling implants were installed at 29 locations and single-depth soil vapor sampling implants were installed at 12 locations. The results from the April 2008 soil vapor survey are summarized in Section 4.2.2.1 of this report. A detailed description of the soil vapor survey is presented in Iris Environmental's June 2008 *Initial Soil Gas Sampling Report* (Iris Environmental, 2008).

2.3.5 Deep Boring Program

LFR, Inc. (now ARCADIS) drilled and installed six nested SVE wells using rotosonic and mud rotary drilling methods between November 3 and December 2, 2008 (Figure 9). Depth-specific soil vapor, soil, and groundwater samples were collected during drilling activities. Depth-specific groundwater samples were collected from the perched zone from between 40 to 60 feet bgs and from the regional aquifer. A suite of geophysical logs including gamma, neutron-density, spontaneous potential, resistivity, acoustic, and caliper were collected from boring SVE-02. Following completion of drilling, the borings were grouted up to a depth of approximately 40 feet bgs. Two nested, 2-inch diameter polyvinyl chloride (PVC) SVE wells were installed in each boring. The SVE wells were constructed with Schedule 40 PVC pipe. The SVE well pairs were screened from 10 to 25 feet bgs and 30 to 40 feet bgs with 0.2-inch slotted Schedule 40 PVC. Nested well pairs were installed in borings SVE-02 through SVE-07. A single 2-inch diameter PVC well was installed in SVE-01 from 10 to 25 feet bgs during the shallow soil vapor investigation conducted by Clear Creek Associates in April 2008.

Soil vapor samples collected at selected depths between 15 and 47 feet bgs indicate the presence of vapor-phase VOCs in the vadose zone down to the perched zone. No VOCs were detected in the soil media samples at concentrations above laboratory reporting limits. Groundwater samples were collected from the perched zone between 40 and 60 feet bgs and from the regional aquifer below 70 feet bgs. Analytical results from the perched zone indicate the presence of chlorinated VOCs and acetone. As discussed in Section 2.3.8 and 4.2.2, VOCs in addition to TCE and PCE were detected in the soil vapor extraction wells and in the subsurface vapor grab samples; however, these additional compounds are not seen in groundwater

samples collected from the regional aquifer. Chlorinated VOCs and acetone were also detected in the groundwater samples collected at the water table. No VOCs were detected at depth (below 165 feet bgs) in the regional aquifer (LFR, 2009a).

A more detailed discussion of the deep soil vapor and groundwater sampling activities and results is included in LFR, Inc.'s *Deep Soil Gas and Groundwater Sampling Summary Report, Former Romic Environmental Technologies Corporation, Lone Butte Industrial Park, Gila River Indian Community, Arizona* (Deep Soil Gas and Groundwater Report) report dated March 18, 2009 (LFR, 2009a).

2.3.6 Closure Demolition

In November 2007, Romic ceased operations at the facility after EPA determined it would not grant a RCRA Part B permit for the facility. Since then, Romic performed equipment decommissioning, decontamination and removal operations at the facility. The equipment associated with the operation of the SMUs has been removed including many of the storage units and processing units. The facility closure efforts are summarized below and described in greater detail in the *RCRA Closure – Subsurface Investigation Report, Former Romic Environmental Technologies Corporation, Lone Butte Industrial Park, Gila River Indian Community, Arizona* (RCRA Closure Report) report by Metro Environmental dated July 15, 2009.

Romic contractors performed an EPA approved RCRA closure of eight hazardous waste management units (HWMUs) and one solid waste management unit (SWMU). The work was completed in 2009 and EPA approval of the closure was issued in March 2010. Closure work included the cleaning and removal of all permitted tanks, process equipment, and piping associated with the facility's permitted activities. The concrete containments were pressure washed and the rinsate tested for compliance. Documentation of the closure work is presented in the 2009 *RCRA Closure Report* (Metro Environmental, 2009).

2.3.7 RCRA Closure Investigation

ARCADIS conducted soil and groundwater sampling in support of RCRA closure activities at the Former Romic Facility between March 30 and April 21, 2009. Eight HWMUs and one SWMU were identified in the Revised RCRA Facility Assessment Report (Booz, Allen, Hamilton, 2004) to be closed as shown in Figure 5. Thirty two (32) shallow borings were drilled with a track-mounted direct-push rig to a depth of approximately 10 feet bgs and ten borings were drilled with a roto-sonic drill rig to a depth of approximately 80 feet bgs (one was drilled to 70 feet bgs). Continuous core was collected for lithologic logging and chemical analysis. The locations of the RCRA closure investigation soil borings are shown on Figure 10.

Soil samples were collected at selected intervals and submitted for laboratory analysis for the RCRA 8 metals by EPA Methods 6010C and 7471B, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270. Soil samples from the Tank Farm D HWMU were analyzed for pH by EPA Method 9045D and soil samples from the Rail Loading Area SWMU were analyzed for 2,4-dichlorophenoxyacetic acid (2,4-D) by EPA Method 8151A. Groundwater samples were collected from a deep boring in each HWMU and SWMU, and submitted for laboratory analysis for RCRA 8 metals (dissolved) by EPA Methods 6010C and 7471B, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270. Groundwater samples from the Tank Farm D HWMU were analyzed for pH by EPA Method 9040C. Analytical results indicate the presence of metals, VOCs, SVOCs compounds in soil and groundwater. No 2,4-D was detected in any of the samples analyzed. Lithologic logging of the soil core from the borings confirmed the lithology identified during the deep soil vapor and groundwater investigation. In addition, the perched zone was identified at depths between 40 to 60 feet bgs in each of the deep borings drilled.

A more detailed discussion of the RCRA Closure sampling activities and results is included in the *RCRA Closure Report* prepared by Metro Environmental dated July 15, 2009.

2.3.8 Vadose Zone Remediation Activities

Based on the results of the April 2008 soil vapor survey, a temporary SVE treatment system (SVETS) was installed to reduce the levels of VOCs in the vadose zone and from the perched zone. The operations of the SVETS and the post remediation monitoring results are summarized below.

ARCADIS conducted a SVE pilot test using the temporary system to reduce VOC mass in the vadose zone soils, and to collect site-specific SVE vacuum response data and vapor recovery rate data to determine if further SVE at the site was appropriate. The pilot test was conducted in January 2009. A blower with 500 standard cubic feet per minute (SCFM) flow capacity at approximately 10 inches of mercury vacuum was used to perform the pilot test. Recovered vapors were controlled with vapor-phase granular activated carbon (GAC). The GAC was placed in two 1,000 pound vessels (2,000 pounds of GAC total) connected in series on the outlet side of the blower.

Data collected during the SVE pilot test indicated that further SVE was appropriate to reduce VOC mass in the vadose zone soils. Thus, the SVETS used for the pilot test was subsequently operated at the Site from December 4, 2008 through February 20, 2010 for a total of 7,534 hours.

ARCADIS monitored influent and effluent total VOC concentrations on a weekly basis at the SVETS using a portable PID. ARCADIS correlated the influent PID readings to actual observed concentrations in order to estimate mass removal. ARCADIS reports that its mass calculations consider the dilution of the field gas to 50% of total flow, based on valve setting on the system. ARCADIS reports that, based on the PID measurements, approximately 150 pounds of VOCs (hexane equivalent) were removed through February 2010.

ARCADIS collected vapor samples from the SVE wells in December 2008 (Baseline), March 2009 (Rebound), June 2009 (Rebound), and August 2010 (Rebound) and submitted for laboratory analysis by EPA Method TO-15. PCE, TCE, acetone and other VOCs were detected in the vapor

samples collected from the SVE wells. Available results from the baseline and rebound monitoring events are included in Appendix A. Further discussion of the effectiveness of the SVE system is included in the Soil Vapor Extraction and Treatment System Operation Report prepared by ARCADIS (ARCADIS, 2011).

3.0 CONCEPTUAL HYDROGEOLOGIC MODEL

3.1 REGIONAL GEOLOGY

The former Romic facility is located in the southern part of the East Salt River Valley (SRV) in the Basin and Range Physiographic Province. The Basin and Range Province is generally characterized by isolated north to northwest oriented mountain ranges separated by broad alluvial valleys. As part of the documentation for the SRV Regional Groundwater Flow Model, the Arizona Department of Water Resources (ADWR) describes three main alluvial units overlying bedrock in the Salt River Valley (Corell and Corkhill, 1994). These layers are the Upper Alluvial Unit (UAU), Middle Alluvial Unit (MAU), and Lower Alluvial Unit (LAU). The UAU is composed of mainly silt, sand, and gravel, extending from land surface to approximately 300 feet bgs in the vicinity of the Romic facility. The MAU consists of mainly clay, silt, sand, and gravel with some interbedded basalt flows, extending from approximately 300 feet to over 700 feet bgs. The LAU includes clays, silts, mudstone, siltstone, sand, and gravel, and extends from below 700 feet to 1,200 feet bgs. ADWR predicts bedrock to occur below 1,200 feet bgs in parts of the SRV.

3.2 LOCAL GEOLOGY

The general lithology beneath the former Romic facility can be described by the sediments encountered during the drilling of groundwater monitor wells and SVE wells on the former Romic facility. Cross sections were prepared using the lithologic logs developed during installation of wells RE101 through RE109 and SVE-01 through SVE-06. Locations of the wells are depicted on Figures 8 and 9, respectively. Cross section A-A' (prepared by LFR and included in Appendix B) is a north-south line along the western edge of the former Romic facility. Cross section B-B' (prepared by LFR and included in Appendix B) is an east west transect through the southern portion of the former Romic facility. The uppermost sediments, from below the surface fill to depths of approximately 60 feet bgs, are predominantly clay and silt with laterally discontinuous layers of horizontal calcareous cementation and caliche. The upper sediments

are underlain by silty sand and sand from approximately 60 feet to 75 feet bgs and by silty gravel and gravel from 75 feet to 100 feet bgs (Clear Creek Associates 2008a and 2009e, LFR 2009a). The observed lithology at SVE-02, which was advanced to 222 feet bgs, indicated alternating layers of clayey gravel and clayey sand from 100 feet to 222 feet bgs (LFR, 2009a).

The Lone Butte supply wells were drilled to depths in excess of 900 feet bgs. Lone Butte supply well A-1 was installed in September 1968 and Lone Butte supply well A-2 was installed in December 1968. Driller's logs for A-1 and A-2 (included as Appendix C) indicate that from land surface to approximately 290 feet bgs the sediments are predominantly gravels with some clays and predominantly clays below 290 feet bgs. From these driller's logs, it is estimated that the transition from the UAU to the MAU occurs at approximately 290 feet bgs. The driller's logs also indicate that the predominantly fine grained MAU extends for approximately 400 feet with the transition to the coarser grained LAU occurring at approximately 700 feet bgs.

3.3 LOCAL HYDROGEOLOGY

Groundwater at the site exists in two water-bearing zones: a perched zone, encountered between approximately 40 to 60 feet bgs and the regional aquifer, generally encountered in the sand and gravel unit beginning at approximately 73 feet bgs. No distinguishing lithologic unit (e.g. permeable sediments above a clay or fine grained lense) is apparent in the sediments under the former Romic facility to account for the presence of the perched zone.

3.3.1 Perched Zone

Saturated conditions were encountered above the regional water table in a thin zone from approximately 40 to 60 feet bgs beneath the former Romic facility during the recent monitor well and SVE well installations. To avoid vertical migration through the well casing, Romic wells RE101 through RE107 are sealed off through the perched zone. A perched zone has also reportedly been identified at the Kinder Morgan site located northwest of the former Romic facility (verbal communication, LFR 2009). Although cascading water has been reported in

GRIC DEQ monitor well LB-6 (located approximately 800 feet northeast of the former Romic facility), indicating that a shallow saturated zone exists at that location, the lateral extent of the shallow saturated zone is unknown. Neither audible indications of cascading water nor spurious readings in the electronic water level sounder have been reported at LB-4, located to the southwest of the former Romic facility, suggesting that the saturated zone may not extend to the south of the former Romic facility. No lithologically distinct layer (such as a fine-grained silt or clay lense) was observed in the soil borings logged during the on-site facility investigations that would explain the presence of the perched zone. The driller's log for Lone Butte supply well A-1 indicated water was encountered at 31 feet bgs. However, insufficient historical water level monitoring data are available to determine if this is representative of a historically higher water table in the regional aquifer. It is currently unknown if the shallow saturated zone is related to delayed drainage from past nearby agricultural irrigation, or if the shallow saturated zone is related directly to infiltration from the adjacent canal and/or the Arizona Department of Transportation (ADOT) retention basin. The full lateral extent of this shallow saturated zone is unknown, however, chemical impacts to the perched zone beneath the former Romic facility have generally been addressed through on-site remediation activities discussed in Section 2.3.6.

3.3.2 Regional Aquifer

Regional groundwater occurs in unconfined conditions at a depth of approximately 70 feet bgs. Groundwater flow directions in the regional aquifer, based on the monitoring data collected from the Romic monitor wells (RE101 through RE107) between August 2007 and August 2010, are generally west-southwest (Clear Creek Associates, 2010b). Groundwater elevation contours for July 2010, the most recent study area-wide water level monitoring event, are shown on Figure 11. Historical groundwater elevation data are summarized in Table 3. The historical data demonstrate that water levels in the regional aquifer have risen approximately 6 feet since 2007 in the vicinity of the former Romic facility. With the exception of monitoring well LB-6, the observed water level rise is generally consistent in all monitoring wells and has

not had a significant influence on interpreted groundwater flow directions.

3.3.3 Groundwater Pumping

The shallow regional aquifer in the vicinity of the former Romic facility is not pumped for human consumption or agricultural irrigation purposes. The Lone Butte Supply wells, used primarily for industrial purposes, are completed primarily in the LAU with perforations extending from approximately 690 feet to 900 feet bgs. Results of the August 2007 sampling of the Lone Butte Industrial Park supply wells, located to the northwest of the facility, showed no detectable levels of contaminants of concern (COCs). According to verbal communications with Lone Butte Industrial Corporation (LBIDC) Staff, no COC has ever been detected in the supply wells.

Several City of Phoenix municipal supply wells are located north of State Route 202 (SR 202) to the northwest of the former Romic facility. According to ADWR records, the depths of these wells range from 872 feet bgs to 1,005 feet bgs. Well screen intervals for these wells were not reported to ADWR. Perimeter monitor wells on the former Romic facility and off-site monitoring wells installed by Romic and the GRIC DEQ confirm that the regional aquifer between the Romic facility and the City of Phoenix supply wells is not impacted by VOCs. Based on the distribution of VOCs in the vicinity of the former Romic facility, the City of Phoenix supply wells are not believed to influence contaminant migration. Clear Creek understands that the City of Phoenix intends to install annular seals in the uppermost portion of the wells, further reducing the potential for these wells to influence contaminant migration in the future.

A series of agricultural supply wells identified as the Broad Acre wells and the Collier wells are located along and north of the irrigation canal west of Interstate 10 (I-10). As discussed in Section 8.0 (Data Gaps), limited information is available on the construction and operation of these wells. However, historical records compiled by Clear Creek from third party sources suggests that at least several of these wells are completed in the shallow regional aquifer in the

interval from 100 to 400 feet bgs. While the accuracy of these historical records cannot be verified, as discussed further in Section 8.0, the distribution of VOCs west of I-10 suggests that these irrigation wells may have an influence on groundwater flow and contaminant migration near the western extent of the North Central plume.

3.3.4 Recharge Sources

Significant localized sources of recharge exist near the former Romic facility. The two primary sources are the unlined irrigation canal immediately north of the site and the ADOT retention basin located to the northeast of the site near LB-6. In addition to storm water, the ADOT retention basin routinely receives tailwater from irrigation laterals that were cut off during freeway construction. Thus, the ADOT retention basin holds water for the majority of the year. Infiltration from the ADOT retention basin and the unlined irrigation canal are the suspected primary sources of water observed in the shallow saturated zone at the former Romic facility.

Historical aerial photography for select periods in the vicinity of the former Romic facility is available from the Flood Control District of Maricopa County website (Appendix D). The aerial photography shows that significant tracts of the land north of Pecos Road were historically used for agricultural production. With increased development and the construction of SR 202, the amount of land under active agricultural production north of Pecos Road has gradually diminished since the 1998/99 time period. Recharge from irrigation may have contributed to the presence of the perched zone in the vicinity of the former Romic facility as evidenced by the elevated levels of nitrate observed in the nearby City of Phoenix supply wells. However, given the low levels of nitrates observed in the Romic groundwater monitoring wells, influences from irrigation recharge do not appear to be a significant factor in the regional aquifer at the former Romic facility.

4.0 SUMMARY OF INVESTIGATION FINDINGS

The understanding of the nature and extent of soil contamination at the former Romic facility and groundwater contamination emanating from the site has been developed from data generated by Clear Creek and others during the field investigations presented in Section 2.0. Clear Creek has relied on the results of the investigations conducted by others as presented in developing this CSM. The following sections summarize the basis for the geologic interpretations and discuss the distribution of the VOC contaminants in the soil and groundwater.

4.1 CONTAMINANTS OF CONCERN – REGIONAL AQUIFER, NORTH CENTRAL PLUME

A number of contaminants have been detected in groundwater and soil samples collected during field investigations at the former Romic facility and as part of the North Central Groundwater Plume investigation. Based on all the investigation work conducted to date, the primary COCs for the off-site regional aquifer are PCE, TCE, and 1,1- dichloroethene (1,1- DCE). In addition to being present in the off-site regional aquifer, these compounds have also been detected in soil samples, soil vapor samples, and groundwater samples collected from the former Romic facility. The relevant standards against which these COCs are compared are established by EPA and include MCLs for groundwater and the non-enforceable Regional Screening Levels (RSLs) for industrial soils.

Contaminant of Concern	MCL (µg/l)	RSL Industrial Soil (mg/kg)
PCE	5	2.6
TCE	5	14
1,1-DCE	7	1,100

4.2 ADDITIONAL CONTAMINANTS DETECTED – FORMER ROMIC FACILITY

Other contaminants including VOCs, SVOCs, and RCRA metals have been detected at the

former Romic Facility in soil, soil vapor, and the localized perched zone. The following Subsections summarize the types and concentrations of the additional contaminants that have been detected in soil, soil vapor, and groundwater at the former Romic facility.

4.2.1 Soil Contaminants

In addition to the Pre-1989 soil sampling discussed in Section 2.1, subsurface soil samples were collected during several phases of the Romic facility investigation and closure activities. Samples were analyzed for VOCs, SVOCs, pesticides, and RCRA metals. With the exception of arsenic, which was detected at concentrations considered to be representative of background levels, no contaminants were detected in soil at concentrations above their respective RSL.

4.2.1.1 2007 Well Installation

Subsurface soil samples were collected during the well installation to assess whether on-site activities impacted the soils at the facility. During the installation of wells RE101 through RE107, soil samples were collected with a split spoon sampler at 5 foot intervals from 5 feet bgs to 20 feet and then at 10 foot intervals to 70¹ feet bgs. Additional samples were collected from 45 feet bgs from RE103, RE104, RE105 and RE107. The soil samples were submitted for analysis for VOCs (EPA Method 8260B), SVOCs (EPA Method 8270C) and RCRA metals (EPA Method 6010B and 7471A for Mercury). No VOCs or SVOCs were detected in any of the soil samples (Clear Creek Associates, 2008a). The only metal detected above its respective industrial RSL was arsenic; however, the concentrations of arsenic detected in the soil samples were consistent with background levels seen in southwestern soils (Clear Creek Associates, 2008a). Table 2 summarizes the soil sampling results from the 2007 well installation investigation.

¹ Soil samples were collected to only 60 feet bgs in well RE107.

4.2.1.2 SVE Borings

Soil samples collected by LFR from borings SVE-03 and SVE-04 during the deep soil vapor and groundwater investigation were analyzed for VOCs using EPA Method 8260B. Soil samples were collected from a depth of 27 feet bgs and 63 feet bgs from boring SVE-03. A soil sample was collected from a depth of 27 feet bgs from boring SVE-04. No VOCs were detected above laboratory reporting limits in any of these samples (LFR, 2009a).

4.2.1.3 RCRA Borings

Soil samples were collected by LFR from the borings drilled in each of the HWMUs and SWMU during the RCRA Closure subsurface investigation. All soil samples that were collected were analyzed for RCRA 8 metals by EPA Methods 6010C and 7471B, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270. Soil samples from the Tank Farm D HWMU were also analyzed for pH by EPA Method 9045D and soil samples from the Rail Loading Area SWMU were also analyzed for 2,4-D by EPA Method 8151A.

Soil samples were collected at 0.5-foot, 1-foot, 4-feet, 7-feet, and 10-feet bgs depths in the shallow borings for laboratory analysis. Soil samples were collected at 0.5-foot, 1-foot, 4-feet, 7-feet, and 10-feet bgs depths and then every 10 feet beginning at approximately 10 feet bgs to a depth of 70 feet bgs in the deep borings. The locations of the RCRA borings are shown on Figure 10. The results of the soil sampling are discussed in detail in the *RCRA Closure Report* (LFR, 2009b) and summarized below.

No TCE was detected above the laboratory reporting limits in any of the soil samples collected during the RCRA Closure investigation activities. PCE, 1,1-DCE and acetone were detected, as described below, but at concentrations below their respective Industrial RSL.

PCE was detected in the following samples:

- Drum Storage Building #1 boring DS-06 at a depth of 1 foot bgs at a concentration of 0.077 milligrams per kilogram (mg/kg).

- Distillation Column/VOC System boring DU-01 at a depth of 4 feet bgs at a concentration of 0.061 mg/kg and in boring DU-02 at a depth of 4 feet bgs at a concentration of 0.22 mg/kg.
- East Bay Processing Area boring EP-02 at a depth of 70 feet bgs at a concentration of 0.12 mg/kg.
- Tank Farm D boring FD-01 at a depth of 1 foot bgs at a concentration of 0.39 mg/kg and in boring FD-04 at a depth of 1 foot bgs at a concentration of 0.043 mg/kg.
- Vacuum Pot/Thin Film Area boring TF-03 at a depth of 1 foot bgs at a concentration of 0.18 mg/kg.
- West Bay Processing Area boring WP-02 at a depth of 1 foot bgs at a concentration of 0.049 mg/kg and in boring WP-02 at a depth of 70 feet bgs at a concentration of 0.067 mg/kg.

1,1-DCE was detected in the following sample:

- East Bay Processing Area boring EP-02 at a depth of 70 feet bgs at a concentration of 0.053 mg/kg.

Acetone was detected at the following sample:

- Tank Farm D boring FD-01 at a depth of 10 feet bgs at a concentration of 2.3 mg/kg.

Other VOCs including 2-butanone (MEK), 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, naphthalene, n-butylbenzene, n-propylbenzene, p-isopropyltoluene, sec-butylbenzene, xylenes (total), 1,2,3-trichlorobenzene, and methyl tert-butyl ether (MtBE) were also detected in some of the samples (LFR 2009b). None of the VOC detections were above their respective Industrial RSL.

Additionally, several SVOCs and RCRA metals were detected in some of the soil samples collected by LFR. LFR reported that three SVOC analytes (phenol, bis-(2-ethylhexyl) phthalate, and di-n-butyl phthalate) were detected above laboratory reporting limits; however, none of the detections was above their respective Industrial RSL. RCRA metals detections were compared to Industrial RSLs, background concentrations on site, and native background concentrations in Arizona. Of the metals detected above the laboratory reporting limits, only arsenic was detected above the Industrial RSL. Based on a comparison to background

concentrations on site, the native concentrations in Arizona, and the depth and random distribution of the above background arsenic detections at the facility, it was concluded that arsenic is naturally occurring and not related to a release from the HWMUs or SWMUs (LFR, 2009b).

No 2,4-D was detected in any of the samples collected at the Rail Loading Area SWMU. pH samples collected from the Tank Farm D HWMU ranged in values from 8 in sample FD-03 at 1 foot bgs to 12 in samples FD-03 at 0.5 feet bgs and FD-04 at 0.5 feet bgs. Additional samples were collected following the removal of the concrete floor and above-liner sands. The results of the re-sampling indicated that pH levels were between 8.87 and 9.35 standard units.

4.2.2 Soil Vapor Contaminants

4.2.2.1 Soil Vapor Survey

A total of 78 samples (including field duplicates and purge volume test results) were collected from 42 unique locations on and near the former Romic facility as part of the April 2008 soil vapor survey conducted by Clear Creek and Iris Environmental. TCE was detected in 72 of the 78 soil vapor samples with concentrations ranging from 0.1 to 180 micrograms per liter ($\mu\text{g/L}$). PCE was detected in 74 of the 78 soil vapor samples with concentrations ranging from 0.1 to 250 $\mu\text{g/L}$. 1,1-DCE was detected in 60 samples with concentrations ranging from 0.2 to 28 $\mu\text{g/L}$. Low levels of other compounds were detected in certain soil vapor sampling points including: Freon 113, 1,1-dichloroethane, 1,2-dichloroethane, cis-1, 2-dichloroethene, chloroform, and methylene chloride. Results from the soil gas survey are included in Appendix E.

The principal source locations for the PCE and TCE contamination appear to be related to historical Southwest Solvents truck unloading and drum storage areas in the south-central portion of the facility (Iris Environmental, 2008). Figures depicting the distribution of PCE and TCE in soil gas at the former Romic facility from the April 2008 investigation are included in

Appendix E.

In addition to TCE, PCE and 1,1-DCE, low levels of petroleum hydrocarbons were detected in several off-site shallow soil vapor borings. Benzene, toluene, ethylbenzene and isomers of xylene (BTEX) were detected in soil borings RSG-001, RSG-002, RSG-006, RSG-012, and RSG-018 which are all located along Allison Road. With the exception of the detection of benzene at or near the detection limit in a single-boring (RSG-036) BTEX compounds were not detected in the on-site soil vapor survey. Therefore, the presence of BTEX is not considered to be related to past practices at the Romic facility (Iris Environmental, 2008).

4.2.2.2 SVE Borings

Depth-specific soil vapor samples were collected by LFR from the SVE borings installed during the deep soil vapor and groundwater investigation and analyzed for VOCs by EPA Method TO-15. One or more VOCs were detected in each of the 16 soil vapor samples collected from the five boring locations. PCE, TCE, and acetone analytical results are summarized below and the results are included in Appendix B:

- PCE was detected in 14 of the 16 samples with the exception of SVE-03-SG-37' and SVE-06-SG-37'. Concentrations ranged from <0.076 µg/L to 52 µg/L with the highest concentration of 52 µg/L detected in both SVE-04 at 37 feet bgs and SVE-05 at 37 feet bgs.
- TCE was detected in 13 of the 16 samples with the exception of SVE-03-SG-37', SVE-04-SG-27', and SVE-06-SG-37'. Concentrations ranged from <0.06 µg/L to 21 µg/L with the highest concentration detected in SVE-06 at 27 feet bgs.
- DCE was detected in 9 of the 16 samples. Concentrations ranged from <0.034 µg/L to 2.7 µg/L with the highest concentration detected in SVE-03 at 47 feet bgs.
- Acetone was detected in 15 of the 16 samples with the exception of SVE-06-SG-37'. Concentrations ranged from <0.66 micrograms per liter (µg/L) to 26 µg/L with the highest concentration detected in SVE-04 at 27 feet bgs.

Other VOCs including 1,1-dichloroethane (DCA), 1,2-dichloroethane (1,2-DCA), 2-butanone (MEK), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,2-trichloroethane-1,2,2-trifluoroethane (Freon

113), 1,1,2-trichloroethane (1,1,2-TCA), ethanol, 1,3-butadiene, carbon disulfide, 2-propanol, chloroform, hexane, cyclohexane, heptane, cumene, benzene, toluene, and m,p-xylene were also detected in some of the samples (Appendix B). Further discussion of these results is included in the Deep Soil Gas and Groundwater Report (LFR, 2009a).

Hexane was used in the equipment decontamination process, thus the presence of hexane and cyclohexane in the soil vapor at the Romic facility is not confirmed. Acetone was present in the vapors extracted by the on-site SVE system confirming its presence in the subsurface. Although documentation is not available, given the nature of Southwest Solvent's operations, it is considered to be likely that acetone was handled historically by Southwest Solvents (LFR, 2009a).

4.2.3 Groundwater Contaminants

Groundwater at the site exists in two water-bearing zones: a perched zone, encountered between approximately 40 to 60 feet bgs and the regional aquifer, generally encountered in the sand and gravel unit beginning at approximately 73 feet bgs. During drilling, the perched zone was identified by the presence of a thin zone of saturated sediments. Generally dry sediments were encountered below the perched zone down to the depth of the regional aquifer.

As discussed below, grab groundwater samples were collected from both the perched zone and the regional aquifer and analyzed for VOCs by EPA Method 8260B.

4.2.3.1 Perched Zone

Grab groundwater samples collected by LFR from the perched zone during the deep soil vapor and groundwater investigation indicated the presence of VOCs. One grab groundwater sample was collected from the perched zone in each boring. PCE, TCE, and acetone analytical results are summarized below and the results are included in Appendix B:

- PCE concentrations ranged from <1.0 µg/L to 14 µg/L with the highest concentration

detected in SVE-04.

- TCE concentrations ranged from <1.0 µg/L to 9.4 µg/L with the highest concentration detected in SVE-06.
- No DCE concentrations were detected above laboratory reporting limits in the sample from the perched zone.
- Acetone concentrations ranged from 240 µg/L to 5,000 µg/L with the highest concentration detected in SVE-03.

LFR reports that other VOCs including cis-1,2-dichloroethene (cis-1,2-DCE), DCA, 1,2-DCA, and MtBE were also detected in the perched zone. Cis-1,2-DCE concentrations ranged from <1.0 µg/L to 6.9 µg/L with the highest concentration detected in SVE-03. DCA was detected in one sample SVE-05 at 1.3 µg/L. 1,2-DCA was detected in one sample SVE-04 at 6.5 µg/L. MtBE was detected in one sample SVE-06 at 18 µg/L. None of the detections were above their respective EPA MCLs. Further discussion of these results is included in the Deep Soil Gas and Groundwater Report (LFR, 2009a).

As discussed in Section 4.2.3.2, below, TCE and PCE have been detected in the regional aquifer. However, as a result of its physical properties, manner of release, or some combination thereof, acetone appears to be retained in the perched zone and has not migrated vertically to the regional aquifer. Acetone was detected in several grab groundwater samples in the shallow saturated zone. However, acetone has not been detected in any of the well samples of the regional aquifer collected during Clear Creek's sampling events. Based on the difference in observed chemistry between the perched zone and the regional aquifer, it is believed that there is little communication between the shallow saturated zone and the regional aquifer.

4.2.3.2 Regional Aquifer

TCE, PCE and 1,1-DCE are the COCs in the regional aquifer for the North Central Plume study area. As discussed above, the results from low-flow groundwater sampling conducted by Clear Creek Associates during both vertical profile sampling and routine groundwater monitoring demonstrate that acetone is not present in the regional aquifer off the former Romic facility.

These results support the interpretation that the perched zone is distinct from the regional aquifer and that the perched zone is not in communication with the regional aquifer.

4.2.3.2.1 Monitor Well Vertical Profiling Results

After completion, monitoring wells constructed by Romic (RE wells) and the GRIC DEQ (LB wells) were vertically profiled. The Romic wells were profiled by Clear Creek Associates using low-flow sampling techniques with a bladder pump. GRIC DEQ profiled the LB-wells using Passive Diffusion Bag samplers (PDBs). Samples were collected at approximately 10 foot intervals and submitted for analysis for VOCs by EPA Method 8260. The results of the vertical profiling conducted on monitoring wells RE101 through RE107 and LB-4, LB-5, LB-10 and LB-11 are presented as Appendix F.

The results of the vertical profiling of LB-4 and LB-5 are supplemented by the results of the August 2010 groundwater sampling event. During this event, Romic and GRIC DEQ each collected samples for analysis for VOCs from these two wells but at differing depth intervals and using their respective sampling methodology (e.g. low-flow or PDB sampling). The August 2010 sampling results are included on Table 4².

TCE, PCE and 1,1-DCE are the primary VOCs to be detected in the vertical profiling of the regional aquifer. Although acetone was detected in the PDB sample collected from the Gila Floodway well (GFW) by GRIC DEQ during the August 2010 event, and has been historically detected in several of the GRIC DEQ monitor wells during previous PDB sampling events, the reported presence of acetone in the PDB sampling results is not considered to be reliable. Columbia Analytical Laboratories, on behalf of GRIC DEQ, previously reported that the detection of acetone was a false positive that could be attributed to laboratory contamination (Appendix G).

² Additional results are included for the July 2010 sampling conducted by AMEC on behalf of Plymouth Tube.

The results of the vertical profiling indicate that only a thin zone of the uppermost water table in the regional aquifer is impacted by VOCs. The depth of this impacted zone is limited to approximately 15 feet at its maximum in the vicinity of the former Romic facility and thins to approximately 5 feet at LB-10. The lack of penetration of chlorinated solvents into the regional aquifer indicates that mass loading to the aquifer was relatively small. As discussed further in Section 5.1, this small mass loading is consistent with vapor phase migration or infiltration of recharge water through an impacted vadose zone.

4.2.3.2.2 SVE Borings

In November 2008, as part of the program to install SVE wells on the former Romic facility, LFR collected grab groundwater samples from the perched zone and from the underlying regional aquifer at five locations on the former Romic facility. LFR reports that water quality data for the perched zone from the November 2008 investigation indicates acetone concentrations ranged from 240 µg/L in SVE-05, located near the railroad unloading area, to 5,000 µg/L in SVE-06, located upgradient of the potential source areas on the former Romic facility. In addition to acetone, lesser concentrations of PCE, TCE and cis-1,2-DCE were detected in locations SVE-03, SVE-04, and SVE-05. SVE-03 is located in the area of the former Southwest Solvents truck unloading area. SVE-05 and SVE-04 are located down gradient of the railroad unloading area. PCE concentrations ranged from 5.4 µg/L to 14 µg/L. TCE concentrations ranged from 5.8 µg/L to 8.2 µg/L. Cis-1,2-DCE concentrations ranged from 4.0 µg/L to 6.9 µg/L. A single detection of 1,1-DCE was observed in SVE-05 (at 1.3 µg/L) and a single detection of MtBE was observed in SVE-06 (at 18 µg/L). Grab groundwater samples collected from the regional aquifer during the deep soil vapor and groundwater investigation indicated the presence of VOCs (Appendix B). Two grab groundwater samples were collected from the regional aquifer in borings SVE-03, SVE-04, SVE-05, and SVE-06. Two depth-specific grab groundwater samples were collected from deeper in the regional aquifer in boring SVE-02. PCE, TCE, and acetone analytical results are summarized below and the results are included in Appendix B.

- PCE concentrations ranged from <1.0 µg/L to 46 µg/L with the highest concentration

detected in SVE-03.

- TCE concentrations ranged from <1.0 µg/L to 25 µg/L with the highest concentration detected in SVE-03.
- DCE concentrations ranged from <1.0 µg/L to 6.2 µg/L with the highest concentration detected in SVE-03.
- Acetone concentrations ranged from <50 µg/L to 390 µg/L with the highest concentration detected in SVE-03.

Other VOCs, including cis-1,2-DCE and Freon 113, were also detected in the regional aquifer grab samples. Cis-1,2-DCE was detected in one sample SVE-03 at 2.0 µg/L and 2.2 µg/L at 80 feet bgs and 86 feet bgs, respectively. Freon 113 was detected in SVE-03 at 86 feet bgs at a concentration of 2.2 µg/L and in SVE-04 at 81 feet bgs at a concentration of 1.3 µg/L. None of these detections exceeded their respective EPA MCLs. Further discussion of these results is included in the Deep Soil Gas and Groundwater Report (LFR, 2009a).

Although acetone and Freon 113 were detected at depth in grab groundwater samples, their presence in the regional aquifer has not been confirmed through routine groundwater monitoring using the low-flow sampling technique. It is unknown if the detections at depth during the deep groundwater investigation. However, the results from the routine groundwater monitoring program indicate that acetone and Freon 113 are not COCs in the regional aquifer. Cis-1,2-DCE has been detected at low concentrations, below the MCL, in wells RE103 and RE107 and historically at LB-4. Cis-1,2-DCE has not been reported at LB-5. These results indicate that cis-1,2-DCE is not a COC in the regional aquifer.

4.2.3.2.3 RCRA Closure Borings

Groundwater samples were collected by LFR from a deep boring in each HWMU and SWMU, and submitted for laboratory analysis for RCRA 8 metals (dissolved) by EPA Methods 6010C and 7471B, VOCs by EPA Method 8260B, and SVOCs by EPA Method 8270. Groundwater samples from the Tank Farm D HWMU were analyzed for pH by EPA Method 9040C. Grab groundwater samples collected from the regional aquifer during the RCRA Closure subsurface investigation indicated the presence of VOCs. One grab groundwater sample was collected from each

boring. PCE, TCE, and acetone analytical results are summarized below and in tables included in Appendix H.

- PCE was detected at concentrations ranging from <1.0 to 40 µg/L with the highest concentration detected in the boring in Distillation Column/VOC System HWMU.
- TCE was detected at concentrations ranging from <1.0 to 9.4 µg/L with the highest concentration detected in the boring in East Bay Processing Area HWMU.
- DCE was detected at concentrations ranging from <1.0 to 11 µg/L with the highest concentration detected in the boring in East Bay Processing Area HWMU.
- Acetone was detected at concentrations ranging from <1.0 to 54 µg/L with the highest concentration detected in the Rail Loading Area SWMU.

Other VOCs including 2-butanone (MEK), Freon 113, 1,2-DCA were also detected, but did not exceed their respective EPA MCLs. Further discussion of these results is included in the RCRA Closure Report (LFR, 2009b).

RCRA metals and SVOCs were also detected above laboratory reporting limits in some of the samples. No RCRA metals were detected above their respective EPA MCLs. The SVOC bis-(2-ethylhexyl) phthalate was detected at a concentration of 130 µg/L in boring RR-05 in the Rail Loading Area SWMU. The detected concentration is above its EPA MCL. Further discussion of these results is included in the RCRA Closure Report (LFR, 2009b).

4.2.3.2.4 Agricultural Supply Wells

In September 2007, EPA collected samples from several agricultural supply wells located west of I-10 and submitted the samples for analysis for VOCs by EPA Method 524.2. Duplicate samples were analyzed for well BA-2. Triplicate samples were analyzed for well BA-4. And a single sample was analyzed for both well BA-5 and well BA-8B. Low levels of TCE, PCE and 1,1-DCE were detected in wells BA-2 and BA-4. All concentrations were detected below the drinking water MCL and significantly below the surface water quality standards for agricultural irrigation water established by rule for surface water quality by the Arizona Department of Environmental Quality (ADEQ). No COCs were detected in wells BA-5 and BA-8B.

4.3 IDENTIFICATION OF ON-SITE SOURCE AREAS

As discussed above, the vadose zone has been extensively investigated at the former Romic facility. The available soil and soil vapor data support the conclusion that there is no discrete, undiscovered source of contamination in the vadose zone at the facility. The relatively small area of impacts and the low concentrations and limited vertical distribution of VOCs observed in the environment suggest smaller scale releases – potentially small spills from the unloading and handling of drums or leaks of residual fluids from empty drums in the drum storage area.

Although the volume of historical releases of TCE and PCE at the former Romic facility may have been limited, they were sufficient to impact the regional aquifer. On site, groundwater impacts are limited to the southernmost extent of the former Romic facility. The available data indicate that Southwest Solvent's former truck unloading and drum storage areas are the most likely source location for the observed groundwater contamination. Minor contributions may also be attributed to the former railroad unloading area. The distribution of soil vapor suggests an older release that has had time to reach equilibrium in the environment. Therefore, it is believed that the most recent release to the subsurface would have occurred prior to 1988.

This CSM is supported by the absence of any substantial soil contamination under the Romic SMUs as discussed further in Section 4.2.1, above. Additionally, the observed concentrations

of VOCs in soil vapor were mitigated by the temporary SVE system. Finally, as discussed in Section 5.3.5, below, the observed TCE and PCE concentrations in the regional aquifer have declined significantly since 2007. Therefore, the vadose zone is not currently considered to represent a continuing source of contamination to the regional aquifer.

5.0 NATURE AND EXTENT OF CONTAMINATION

The *Current Conditions Report* (Clear Creek Associates, 2008b) presented the historical investigations that have been completed and identified a list of all contaminants identified at any time in any media at the former Romic facility. A summary of the findings from the additional investigations conducted subsequent to the *Current Conditions Report* is presented in Section 4 of this CSM. However, as discussed in Section 4 of this CSM, the majority of the contaminants that have been detected historically in the soils, soil vapor or the perched zone have not been detected in the regional aquifer. Further, based on the remedial activities that have been performed on-site, these historically detected constituents are not considered to present a significant continuing threat to groundwater quality in the regional aquifer. This section describes the mechanisms involved in the fate and transport of soil and groundwater of the primary COCs at the former Romic Facility site. For purposes of this CSM, this Section describes the nature and extent of contamination of the vadose zone (including the soil, soil vapor and perched zone) at the former Romic facility and the regional aquifer.

5.1 INTRODUCTION

This section describes the mechanisms involved in the fate and transport of the identified COCs in soil and groundwater at the former Romic Facility. The primary COCs are halogenated VOCs. Transport of VOCs is controlled by several different mechanisms, including the type of subsurface medium and geochemical conditions in the material through which the compounds are migrating. Physical and chemical transformations of the contaminants can also affect their fate and transport.

Chlorinated solvents such as TCE, PCE and 1,1-DCE have specific gravities greater than water and, when released in the environment in pure form, are considered to be dense non-aqueous phase liquids (DNAPLs). The subsurface movement of DNAPLs is controlled by a number of factors including the nature and extent of the release, the properties of the subsurface porous media, and the properties of the DNAPL (Cohen and Mercer, 1993). The rate of migration of

DNAPL in the subsurface is controlled by: 1) the density and viscosity of the DNAPL; 2) the intrinsic permeability of the geologic media; and 3) the degree of saturation in the pore spaces (Pankow and Cherry, 1996). DNAPL migration in the vadose zone is dominated by gravity (National Research Council, 2005). DNAPL migration tends to continue vertically downward until a less permeable stratum is reached resulting in lateral spreading or the volume of DNAPL is depleted (National Research Council, 2005). When released as dissolved-phase component of an aqueous liquid, the dynamics of migration are dependent on concentration, the presence of other components, flushing, and other variables.

Studies of industrial sites with chlorinated solvent releases have also shown that, at most sites, the DNAPLs penetrated the vadose zone into the groundwater zone. However, at certain sites, where the volume of DNAPL released is very small, it is possible the DNAPL mass resides in the vadose zone (Pankow and Cherry, 1996). Experimental field studies have also shown that small point source releases, equivalent to a drip release, penetrated soils much deeper than the same volume released over a larger area more representative of a surface spill (Pankow and Cherry, 1996).

Residual DNAPL mass in the vadose zone can migrate downward to groundwater either driven by the infiltration of water recharged from the surface or in the vapor phase. Highly volatile compounds with high vapor densities can, over many years or decades, migrate vertically downward through thick vadose zones to reach the water table (Pankow and Cherry, 1996).

The exact nature and timing of the VOC releases at the former Romic facility are not known. Given the nature of the historical operations at the former Romic facility, the COCs could have been released to the subsurface as either a free-phase immiscible liquid or as a dissolved-phase component of a liquid waste stream. It is unknown if the releases of COCs occurred as a point source release (such as from a specific tank) or as a broader, non-point source release. However, the available data, including the distribution of COCs in soil vapor suggest that Southwest Solvent's former truck unloading and drum storage areas are the most likely source location for the observed soil vapor and groundwater contamination. Therefore, the most

recent release to the subsurface would have likely occurred prior to 1988. Further, the limited water table impacts observed in the regional aquifer, with no significant penetration of COCs into the aquifer, suggest that volume of release was relatively small and largely retained in the vadose zone.

5.2 VADOSE ZONE AND PERCHED ZONE CONTAMINATION

The soil, soil vapor and perched zone under the former Romic facility have been extensively investigated. Soil samples have been collected under each the former SMUs and no significant source of soil contamination was identified. At the former Romic Facility, there is little to no evidence for residual DNAPL in the subsurface. Low concentrations of VOCs were detected in a limited subset of soil samples collected in the Drum Storage Building, Distillation Column/VOC System, East Bay Processing Area, Tank Farm D, Vacuum Pot/Thin Film Area, and West Bay Processing Area HWMUs (Figure 5). However, TCE and PCE are present in soil vapor under the former Romic facility. As such, vertical migration of vapor-phase VOCs and dissolved-phase VOCs in infiltrating water would likely be the primary mechanisms of transport in the vadose zone to the perched zone and the underlying regional aquifer.

As discussed in Section 2.3.6, remediation of the vadose zone has been accomplished through the operation of the on-site SVETS which reduced the mass of VOCs in the soil vapor and perched zone. Generally low levels of VOCs are observed in soil vapor in the post SVE rebound samples, likely as a result of off-gassing from the perched zone. Except for a limited area in the vicinity of SVE-3S, the post rebound VOC concentrations observed in shallow soil vapor are generally below the industrial air RSL (Appendix A).

As discussed in Subsection 5.3.5, below, significant reduction trends in the concentrations of TCE, PCE and 1,1-DCE are observed in the regional aquifer in the vicinity of the former Romic facility. As a result, the vadose zone and perched zone are currently not considered to represent a significant source of continuing contamination to the regional aquifer.

5.3 REGIONAL AQUIFER – NORTHERN PLUME

As described below, the regional groundwater plume in the North Central Study area can be subdivided east of I-10 based on certain chemical signatures. The northern plume area has been associated with the former Romic facility and is defined by the presence of PCE contamination in addition to TCE contamination. East of I-10, a southern plume area associated with another source area can be described by TCE contamination with little to no PCE contamination. This CSM focuses on the northern plume area. Observed chemical signatures of the North Central plumes as well as the lateral and vertical extent, fate and transport, concentration trends and estimated mass of the northern groundwater plume are described in the following subsections.

5.3.1 Chemical Signatures

East of I-10, TCE and PCE appear to act as signatures of different source areas. The plume in the vicinity of the former Plymouth Tube facility can be characterized as a TCE plume, since PCE has not been detected at elevated concentrations or frequently in the monitoring wells at the Plymouth Tube site. The northern plume in the vicinity of the former Romic facility is primarily a PCE plume with lesser concentrations of TCE. 1,1-DCE is observed at lesser concentrations in both the northern and southern plumes. The delineation of the southern boundary of the northern plume is defined by the results from recently installed monitoring well LB-15. The results from GRIC DEQ's August 2010 groundwater monitoring event indicate that sub-MCL concentrations of PCE (2.3 µg/L) and TCE (0.98 µg/L) are present in the well.

West of I-10, there are a limited number of monitoring wells and fewer water elevation and water quality data are available to define the degree of separation or comingling of the two plumes. As discussed in Section 5.3.3., below, the vertical profile results suggest that the agricultural supply wells may have some influence on groundwater flow and contaminant migration of the western extent of the North Central plume. However, as discussed in Section 8, the full extent of impacts from these wells is currently not understood.

5.3.2 Lateral Extent

Monitoring wells installed by Romic, Plymouth Tube and the GRIC DEQ generally define the lateral extent of the PCE and TCE plumes in the North Central study area. The data from July-August, 2010³, the most recent coordinated groundwater monitoring event conducted by the three parties, is included as Table 4. Figures 12 and 13 show the extent of PCE and TCE in the regional aquifer. As can be seen on Figure 12, the extent of PCE contamination currently extends as far to the west as monitoring well LB-10. Although PCE and TCE concentrations above the MCL have historically been detected in monitoring well LB-11, the most recent data indicate that the PCE and TCE concentrations are low (PCE 0.74 µg/L) to below detection (for TCE).

The northern plume is bounded to the north and south from the former Romic Facility to I-10. Near the facility, the plume does not widen to a point where it would intersect well RE109 or LB-12 (Figure 8), nor does it extend upgradient to RE-102. Downgradient, the plume is bounded by LB-14 (ND) and possibly by the low VOC detections in LB-15 (2.3 µg/L PCE and 0.98 µg/L TCE in August 2010) relative to LB-5 (10 µg/L PCE and 6.6 µg/L TCE in August 2010). The axis of the northern plume appears to be well characterized by the sequence of wells starting at RE103 and RE107, then LB-4, LB-5 and LB-10.

5.3.3 Vertical Distribution

The vertical distribution of VOCs in the regional aquifer is limited to the immediate top portion of the groundwater. Vertical profiling has been conducted at each of the LB and RE monitor wells at least once after each well was installed. The vertical profile results are included as Appendix F. The results of the vertical profiling of LB-4 and LB-5 are supplemented by the results of the August 2010 groundwater sampling event. During this event, Romic and GRIC

³ Data compiled from Clear Creek Associates 2010b, 08/24/10 email summary from GRIC DEQ, and 08/06/10 email summary from AMEC Geomatrix.

DEQ each collected samples for analysis for VOCs from these two wells but at differing depth intervals. The August 2010 sampling results are included on Table 4.

The results of the vertical profiling indicate that only a thin zone of the uppermost water table in the regional aquifer is impacted by VOCs in the vicinity of the former Romic facility. The depth of this impacted zone is limited to approximately 15 feet at its maximum in the vicinity of the former Romic facility. The lack of penetration of chlorinated solvents into the regional aquifer in the vicinity of the former Romic facility indicates that mass loading to the aquifer is very small. Vertical profiling at LB-10 indicates that the top of the impacted zone is limited to within about the bottom five feet of the well. The depths of impacts in LB-10 are approximately 40 feet lower in elevation than the observed impacts in LB-4 in the vicinity of the former Romic facility. At the low concentrations observed, and with no significant observable lithologic variations in the aquifer materials, the TCE and PCE plume is expected to migrate generally horizontally with the groundwater flow. The water elevation hydrograph for the GFW well (Appendix I) does not suggest that any significant recharge is occurring that would otherwise cause a change in elevation of the plume. These results suggest the plume elevation may be affected by operation of the agricultural supply wells causing locally downward gradients in the area near the wells west of I-10.

5.3.4 Fate and Transport

The migration of dissolved contaminants in porous media is generally controlled by advective transport in the predominant groundwater flow direction. A limited amount of lateral spreading, or hydrodynamic dispersion, can be expected as a result small-to-large scale heterogeneities in the aquifer materials (National Research Council, 2004). Typically, diffusive transport is very limited. Although concentration gradients at the leading edge of a dissolved contaminant plume may account for a very small scale contaminant “halo” advancing parallel to the groundwater flow direction, lateral (across the hydraulic gradient) dispersion is generally limited. The relatively narrow plumes seen in the North Central study area are consistent with

this conceptual model.

Typically, the organic carbon content of sediments in the arid Southwest is low. As a result, the retardation rates for the dissolved contaminants are expected to be relatively small. Based on its physical properties, however, the retardation rate of PCE is expected to be slightly greater than that of TCE.

The presence of 1,1-DCE in the regional aquifer can be attributed to either impurities in the PCE and/or TCE solvents used in the study area, the abiotic degradation (hydrolysis) of TCA, or the anaerobic degradation of TCE. The general absence of 1,1-DCA in the regional aquifer suggests that TCA is not likely a significant contributor to the presence of 1,1-DCE. Table 5 summarizes the dissolved oxygen and oxygen reduction potential (ORP) of monitoring wells in the vicinity of the former Romic facility. The data were collected using a flow through cell during the low-flow sampling conducted by Clear Creek. Slight reducing conditions are suggested in the vicinity of the former Romic facility. With the exception of monitoring wells LB-4 and LB-5, which have periodically been sampled by Romic, dissolved oxygen and redox parameters are unavailable for the down gradient LB-series of monitoring wells due to the use of diffusion bag sampling methods. However, 1,1-DCE trends are not increasing as PCE and TCE decreases but rather decreasing as well. Thus, biodegradation is not currently considered to be a significant factor at the site or in the regional aquifer. This is generally consistent with the behavior of VOC plumes in the arid southwest where low organic carbon content in sediments is common resulting in minimal biodegradation of the primary contaminants.

5.3.5 Concentration Trends

Concentrations trends for PCE and TCE are generally declining throughout the northern plume. The observed PCE and TCE concentration reductions between August 2007 and August 2010 are shown on Tables 6 and 7, respectively. Time series concentrations graphs are included in Appendix I of this report. From August 2007, when well RE107 was first installed, to August 2010, PCE concentrations have declined 75% from 280 µg/L to 70 µg/L while TCE

concentrations have declined 81.7% from 240 µg/L to 44 µg/L. Similarly, in RE103 PCE concentrations have declined 21.5% from 93 µg/L to 73 µg/L while TCE concentrations have declined 75% from 56 µg/L to 14 µg/L over the same time period. Similar reductions for the time period are observed downgradient from the site at LB-4 – PCE concentrations have declined 75.7% from 140 µg/L to 34 µg/L while TCE concentrations have declined 80.8% from 130 µg/L to 25 µg/L. Smaller, but still notable, reductions are seen in LB-5 – PCE concentrations have declined 20.8% from 24 µg/L to 19 µg/L while TCE concentrations have declined 40% from 20 µg/L to 12 µg/L. The smaller reductions seen in LB-5 may be attributed to increased transport time associated with its greater distance from the former Romic facility.

Concentration contour maps for PCE and TCE for the northern plume in the Lone Butte Industrial Park east of I-10 are included as Figures 14 and 15, respectively, for August 2007 and Figures 16 and 17, respectively, for August 2010. The significant reduction in the PCE and TCE concentrations in the northern plume in the vicinity of the Romic facility are readily apparent when the two time periods are compared. The declining concentration trends in the northern plume are consistent with natural attenuation of a VOC plume whose source has been removed. It is expected that the observed VOC concentration trends will continue to decline over time.

5.3.6 Northern Plume Mass

The mass of PCE in the northern plume in the regional aquifer at and downgradient from the former Romic facility was estimated for a conceptual aquifer plume along an axis from wells RE103/RE107 in the east, through LB-4, LB-5 and extending west to LB-10. The volume was calculated using an estimate for the length, width and thickness of the plume based on well detection patterns in the regional aquifer along this axis. A uniform porosity of 25% was assumed. For the segment from RE103/RE107 to LB-4 and from LB-4 to LB-5, a uniform thickness was used. However, one-half of the calculated volume was used for the segment from LB-5 to LB-10 to account for the vertical thinning of the plume (an estimated 15 feet thickness at LB-5 to an estimated thickness of 5 feet at LB-10 based on vertical profiling). Using

the analytical results for PCE from the August 2010 groundwater sampling event as a mass source value, the median concentration between monitoring wells was applied to the estimated plume volume for each segment to estimate PCE mass. As can be seen on Table 8, the estimated mass of PCE in the entire plume is less than 8 pounds – or in terms of volume, only approximately 0.56 gallons of PCE are distributed throughout the entire northern plume. Using the same approach, it was estimated that less than 5 pounds or approximately 0.4 gallons of TCE is present in the entire northern plume (Table 9).

6.0 KNOWN OR POTENTIAL EXPOSURE PATHWAYS

Potential pathways for exposure to human receptors were considered to assess whether chemicals associated with the former Romic facility and the northern plume had the potential to contribute to excessive risk for the human population. As discussed elsewhere in this CSM, COCs are present at low and decreasing concentrations beneath the former Romic facility and in groundwater. However, unless a pathway is present and completed between the source and the human receptor, a risk is not present for that population. Populations considered included potential future workers on the former Romic facility and current and future workers employed at the various businesses that overlay the plume foot print. There are currently no employees located at the former Romic facility. No specific analysis of risk levels was performed for these potential populations at this time. Only the feasibility of a completed pathway was considered. Potential exposure pathways at the former Romic facility and over the North Central Plume are discussed in Sections 6.1 and 6.2, respectively, below. A schematic representation of the potential exposure pathways is included as Figure 18.

6.1 FORMER ROMIC FACILITY

The following potential pathways were considered for the former Romic facility: vapor inhalation, soil ingestion, dermal exposure, and groundwater ingestion or dermal exposure. The former Romic facility is paved and is not currently occupied. Even when occupied by future workers, a dermal exposure pathway would not be completed due to the surface covering and the absence of COCs in shallow soil. Extensive soil sampling in the permitted unit areas did not detect chemicals present at levels that would cause excessive risk from dermal exposure.

The perched zone continues to represent a source of vapor phase VOCs due to diffusion into vadose zone sediments beneath the former Romic facility. Low levels of TCE, PCE and 1,1-DCE were observed in the rebound samples of the shallow and deep SVE wells after nine months of rebound. To gain a perspective on the potential of elevated human health risk from vapor

phase VOCs, the rebound concentrations in the shallow SVE wells were compared to the industrial indoor air RSLs using an attenuation factor derived from the California EPA guidance (California EPA, 2005) (Table 10). TCE and 1,1-DCE are present in the rebound samples at concentrations below the industrial indoor air exposure levels. In all shallow SVE wells except SVE-3S, the PCE concentrations are below the industrial air exposure level. In SVE-3S, PCE concentrations rebounded to twice the industrial air exposure level. Therefore, depending on the future development of the former Romic facility, the indoor air pathway is considered to be a potential future exposure pathway that should be considered further in the location of SVE-3S. Currently, however, no buildings are present in the vicinity of well SVE-3S, and thus no completed pathway exists for vapor intrusion at levels of concern for the former Romic Facility.

Potable water for drinking, bathing, commercial uses, etc. is supplied by the LBIDC water system. No wells have been located or reported in the area that are screened in the shallow first water bearing zone where the northern plume is identified. Therefore, no pathway is competed for groundwater ingestion or use. In addition, the LBIDC and GRIC DEQ have stated that they would enforce a control that prevents installation of shallow groundwater wells in the future.

6.2 NORTH CENTRAL PLUME AREA

The potential pathways considered for the off site portion of the groundwater plume were groundwater ingestion, groundwater dermal exposure, and vapor inhalation. No domestic or public water supply wells are impacted by the North Central plume thus there is no completed exposure pathway for ingestion, inhalation or dermal exposure (e.g., bathing). While COCs were detected in grab samples from the discharge of two agricultural supply wells, the VOC concentrations were below MCLs for drinking water and significantly below established risk levels for agricultural irrigation. Vapor emissions from the currently decreasing concentrations of VOCs in the northern plume are not considered a completed pathway due to the depth to groundwater and the low concentrations observed at the water table in most locations.

7.0 SUMMARY CSM FOR THE FORMER ROMIC FACILITY

This Section provides a concise summary of the CSM for the former Romic facility. A schematic representation of the CSM for the former Romic facility is included as Figure 19.

Historical operations at the former Romic facility included the storage, handling and treatment of hazardous substances including VOCs. Past practices resulted in the release of VOCs into the subsurface at the former Romic facility. Through infiltration and/or vapor phase migration, VOCs impacted the vadose zone and a perched zone above the regional water table beneath the former Romic facility. The narrow width of the plume indicates that the footprint of the release area is relatively small and that the regional groundwater flow direction has remained stable historically over time. Although the overall mass of VOCs released to the subsurface environment is considered to be relatively small, a sufficient mass of both TCE and PCE were released to impact the regional aquifer beneath the southern portion of the Romic facility. TCE and PCE impacted groundwater in the vicinity of the former Romic facility is limited to a very thin zone (approximately 5 to 15 feet thick in most monitoring locations) near the uppermost water table of the regional aquifer. The source of TCE and PCE impacts has apparently been removed or controlled through on-site remedial actions or through natural attenuation. The likely operational sources for VOC releases ceased to exist by 1990 or earlier. As a result, the concentrations of TCE and PCE in the impacted groundwater has decreased significantly (over 80% in certain wells) since monitoring began in 2007. TCE and PCE impacted groundwater has, over time, migrated off-site forming a narrow plume. A monitoring well network installed by Romic and others has generally defined the extent of the groundwater plume. Groundwater chemical data do not indicate the presence of increased mass beyond the former Romic Facility vicinity. The total estimated mass of PCE is 0.66 gallons for the entire plume. The plume of TCE- and PCE- impacted groundwater has migrated from the former Romic facility in a west-southwest direction. The western extent of the impacted groundwater may be controlled and limited by pumping of the agricultural irrigation wells west of I-10. VOC concentrations in the pumped water were below regulatory risk guidance levels when sampled.

8.0 DATA GAPS

The current CSM is based on the available data as summarized in previous sections. Certain data gaps have been identified that may have an impact upon future refinements of the CSM. These data gaps are summarized below.

8.1 DATA GAPS WARRANTING ADDITIONAL INVESTIGATION

Following are those data gaps that have been identified that warrant additional investigation:

- Insufficient water level monitoring data are available to determine if variations in historic water elevations or seasonal variations may exist in the regional aquifer. Understanding the regional groundwater flow conditions is important in understanding the potential migration of contaminants in groundwater as well as in considering potential off-site investigations to identify additional sources of groundwater contamination. Continued water level and water quality monitoring of the regional monitoring well network is recommended.
- Details on the construction, current capacity, and operations of the agricultural irrigation wells located west of I-10 are not available. As a result, the degree of impact that these agricultural irrigation wells have on the migration of the North Central plume cannot be adequately assessed. Additional data collection and evaluation of select wells near the North Central Plume (e.g. Broad Acre wells BA-1, BA-2 and BA-3) is recommended. Romic previously provided a Technical Memorandum summarizing the steps that may be appropriate to gather information on these wells and to assess the affect that operation of these wells has on local groundwater flow Clear Creek Associates, August 2010a). If concentrations in nearby monitoring well LB-10 increases significantly, then periodic monitoring of one or more of the agricultural production wells for VOCs may also be warranted to ensure that continued use of the wells remains protective.

- There are also no known down hole investigations (such as spinner flowmeter logging or depth specific sampling) that have been conducted on the agricultural supply wells to determine which zones produce water to the well. As a result, it cannot be determined if producing zones in the well are impacted by VOCs. If it is determined that supply well BA-1, BA-2, or BA-3 have an impact on the migration of the plume, then conducting a downhole investigation of the well may be evaluated in the future.
- The nature and extent of the northern plume are not monitored between wells LB-5 and LB-10. This gap is due in part to the I-10 Freeway expanse. While to the north, well LB-14 does monitor the northern plume in the gap, although data indicates it is beyond the lateral edge of the plume. Collection of a vertical sequence of grab groundwater samples should be considered to evaluate the lateral and vertical extent of TCE and PCE in the area between LB-5 and LB-10.
- Well LB-11 is presumed to be monitoring the distal end of the comingled plume. VOCs have not been detected in well samples from LB-11 above the respective MCLs for over 14 months. The data from LB-11 and well integrity (cascading water issues) should be validated. If deemed necessary to define the plume distal extent, hydropunch type sampling should be considered.

8.2 ADDITIONAL DATA GAPS – NO FURTHER ACTION

Additional data gaps have been identified that, while they represent a gap in our understanding of the CSM, are not considered to be significant enough to change our conceptualization of the Site. Thus, these data gaps are not considered to warrant further investigation.

- The top of the impacted zone is detected only in samples collected near the bottom of LB-10. It is unknown whether this represents a thinning of the impacted zone in response to pumping from a productive zone within the nearby agricultural wells or the

plume is diving beneath the well screen. However, the results from vertical profile sampling generally indicate that the highest concentrations are observed in the top of the impacted zone. Since additional investigation of the agricultural supply wells has been recommended, additional investigation of LB-10 is not considered to be warranted at this time.

- As discussed in Section 3.3.1, the source of the water for the perched zone is unknown. The shallow saturated zone does not appear to be regionally extensive and, based on the distribution of acetone, there does not appear to be significant communication between the shallow saturated zone and the regional aquifer. Additionally, the SVETS operations may have had a beneficial effect on VOC concentrations in the perched zone. Therefore, additional investigations of the source of water or extent of the perched zone do not appear to be warranted at this time.
- The source of the BTEX contamination identified in the shallow soil vapor probes located along Allison Road is not confirmed, although the source is assumed to small releases by vehicles traveling on the roadway and bouncing over the railroad crossing. Based on the limited extent and low concentrations observed, additional investigation does not appear to be warranted.

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TABLES

TABLE 1
WELL CONSTRUCTION DETAILS
North Central Project
Gila River Indian Community, Arizona

Well Name	Cadastral / Legal Location	Well Type	Northing	Easting	Coordinate System	Surface Completion	Surface Elevation	Measuring Point	Measuring Point Elevation	Diameter (inches)	Casing Type	Screen Type	Slot Size	Total Depth	Top of Filter Pack	Top of Screen	Bottom of Screen
Aero Dyne-1	NA	Monitor	NA	NA	NA	NA	NA	NA	NA	NA	PVC	PVC	NA	NA	NA	73.7	83.7
Aero Dyne-2	NA	Monitor	NA	NA	NA	NA	NA	NA	NA	NA	PVC	PVC	NA	NA	NA	59.2	79.2
Aero Dyne-3	NA	Monitor	NA	NA	NA	NA	NA	NA	NA	NA	PVC	PVC	NA	NA	NA	73.3	83.3
Aero Dyne-4	NA	Monitor	NA	NA	NA	NA	NA	NA	NA	NA	Na	NA	NA	NA	NA	63.8	83.8
Aero Dyne-4B	NA	Monitor	NA	NA	NA	NA	NA	N. side of casing	1156.171	4	PVC	PVC	0.02	120	NA	70	120
Aero Dyne-5	NA	Monitor	NA	NA	NA	NA	NA	NA	NA	NA	PVC	PVC	NA	NA	NA	62.3	82.3
Aero Dyne-6	NA	Monitor	NA	NA	NA	NA	NA	N. side of casing	1158.167	4	PVC	PVC	0.02	120	NA	70	120
Aero Dyne-7R	NA	Monitor	NA	NA	NA	NA	NA	N. side of casing	1155.28	4	PVC	PVC	0.02	120	NA	70	120
Gila Floodway (GFW)	D-02-04 05 CDB	Monitor	829120.471	682508.689	NAD83	5 Ft Riser	1135.778	N. side of casing	1140.21	4	PVC	PVC	0.02	95	65	70	95
HC-9	D-02-04 06 ADC	Monitor	830624.27	680192.42	NAD84	Vault	NA	N. side of casing	1146.86	18	Steel	Steel	NA	NA	NA	73	124
Lone Butte-1 (LB-1)	D-02-04 05 DBD	Monitor	829246.978	685157.067	NAD83	Vault	NA	N. side of casing	1147.99	4	PVC	PVC	0.02	90	25	30	90
Lone Butte-2 (LB-2)	D-02-04 05 DBB	Monitor	830145.215	684584.123	NAD83	Vault	NA	N. side of casing	1148.86	4	PVC	PVC	0.02	90	25	30	90
Lone Butte-3 (LB-3)	D-02-04 04 CCC	Monitor	830748.517	686237.785	NAD83	Vault	1150.032	N. side of casing	1149.32	4	PVC	PVC	0.02	100	44	50	100
Lone Butte-4 (LB-4)	D-02-04 04 BCB	Monitor	832138.729	686928.941	NAD83	Vault	1151.305	N. side of casing	1150.6	4	PVC	PVC	0.02	100	44	50	100
Lone Butte-5 (LB-5)	D-02-04 05 ADC	Monitor	831426.733	685206.1	NAD83	Vault	1146.92	N. side of casing	1146.72	4	PVC	PVC	0.02	100	44.5	50	100
Lone Butte-6 (LB-6)	D-02-04 04 BAA	Monitor	833267.826	688164.342	NAD83	Vault	1156.43	N. side of casing	1155.54	4	PVC	PVC	0.02	100	45	50	100
Lone Butte-7R (LB-7R)	D-02-04 04 CAA	Monitor	NA	NA	NAD83	NA	NA	N. side of casing	1156.087	4	PVC	PVC	0.02	101.5	NA	75	101.5
Lone Butte-8 (LB-8)	D-02-04 04 CAA	Monitor	830589.061	688435.164	NAD83	Vault	1156.66	N. side of casing	1155.979	4	PVC	PVC	0.02	200	174	180	200
Lone Butte-10 (LB-10)	D-02-04 06 ADC	Monitor	829710.3	680285.63	NAD83	Vault	1141.83	N. side of casing	1141.45	4	PVC	PVC	0.02	120	50	55	120
Lone Butte-11 (LB-11)	D-02-04 05 ABA	Monitor	829054.12	675983.48	NAD83	Vault	1139.21	N. side of casing	1138.84	4	PVC	PVC	0.02	120	55	60	120
Lone Butte-12 (LB-12)	D-02-04 05 ABA	Monitor	833258.91	684417.52	NAD83	Vault	1153.42	N. side of casing	1153.03	4	PVC	PVC	0.02	120	60	65	120
Lone Butte-13 (LB-13)	D-02-04 07 AAB	Monitor	827718.71	680420.2	NAD83	Vault	1136.08	N. side of casing	1135.59	4	PVC	PVC	0.02	140	45	50	140
Lone Butte-14 (LB-14)	D-02-04 05 BAD	Monitor	832053.88	683078.86	NAD83	Vault	1151.62	N. side of casing	1151.25	4	PVC	PVC	0.02	140	45	50	140
Monitor Well-18 (MW-18)	D-02-04 06 ADC	Monitor	NA	NA	NAD83	Standpipe	NA	N. side of casing	1152.82	4	PVC	PVC	0.02	118	61	65	115
Romic Environmental-101 (RE-101)	D-02-04 04 BBD	Monitor	832665.78	687862.83	NAD83	3 Ft Riser	1155.22	N. side of casing	1157.97	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-102 (RE-102)	D-02-04 04 BBD	Monitor	832833.04	687716.72	NAD83	3 Ft Riser	1156.82	N. side of casing	1159.81	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-103 (RE-103)	D-02-04 04 BBD	Monitor	832421.78	687323.89	NAD83	Vault	1152.57	N. side of casing	1151.92	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-104 (RE-104)	D-02-04 04 BBD	Monitor	832536.02	687296.29	NAD83	Vault	1153.53	N. side of casing	1152.90	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-105 (RE-105)	D-02-04 04 BBD	Monitor	832637.68	687299.04	NAD83	Vault	1153.63	N. side of casing	1152.84	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-106 (RE-106)	D-02-04 04 BBD	Monitor	832766.49	687295.10	NAD83	Vault	1153.37	N. side of casing	1152.82	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-107 (RE-107)	D-02-04 04 BBD	Monitor	832413.42	687461.76	NAD83	Vault	1152.92	N. side of casing	1152.48	4	Steel-PVC	PVC	0.02	100	60	65	100
Romic Environmental-108 (RE-108)	D-02-04 04 BAC	Monitor	832333.99	688095.21	NAD83	3 Ft Riser	1156.00	N. side of casing	1158.13	4	Steel-PVC	PVC	0.02	101	60	65	100
Romic Environmental-109 (RE-109)	D-02-04 04 BBC	Monitor	832493.83	686261.15	NAD83	3 Ft Riser	1150.65	N. side of casing	1152.78	4	Steel-PVC	PVC	0.02	101	60	65	100

TABLE 2
SOIL ANALYTICAL RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Sample Date	Sample Type	VOCs by EPA 8260B (mg/Kg)	SVOCs by EPA 8270C (mg/Kg)	Arsenic by EPA 6010B (mg/Kg)	Barium by EPA 6010B (mg/Kg)	Cadmium by EPA 6010B (mg/Kg)	Chromium by EPA 6010B (mg/Kg)	Lead by EPA 6010B (mg/Kg)	Selenium by EPA 6010B (mg/Kg)	Silver by EPA 6010B (mg/Kg)	Mercury by EPA 7471A (mg/Kg)
RE101-05'	7/17/07	Soil	ND	ND	8.8	200	<0.10	13	5.4	<2.0	<0.30	<0.10
RE101-10'	7/17/07	Soil	ND	ND	7.0	66	<0.10	11	<0.50	<2.0	<0.30	<0.10
RE101-15'	7/17/07	Soil	ND	ND	<1.0	32	<0.10	29	<0.50	<2.0	<0.30	<0.10
RE101-20'	7/17/07	Soil	ND	ND	5.6	50	<0.10	35	<0.50	<2.0	<0.30	<0.10
RE101-30'	7/17/07	Soil	ND	ND	5.9	130	<0.10	13	<0.50	<2.0	<0.30	<0.10
RE101-40'	7/17/07	Soil	ND	ND	6.2	280	<0.10	21	<0.50	<2.0	<0.30	<0.10
RE101-50'	7/17/07	Soil	ND	ND	<1.0	54	<0.10	16	<0.50	<2.0	<0.30	<0.10
RE101-60'	7/17/07	Soil	ND	ND	7.4	140	<0.10	15	7.3	<2.0	<0.30	<0.10
RE101-70'	7/17/07	Soil	ND	ND	5.4	90	<0.10	12	7.0	<2.0	<0.30	<0.10
RE101-70'FB	7/17/07	Water	ND	ND	<0.10	<0.010	<0.0010	<0.010	<0.015	<0.10	<0.010	<0.00050
RE102-05'	7/16/07	Soil	ND	ND	4.7	110	<1.0	12	8.0	<5.0	<1.0	<0.10
RE102-10'	7/16/07	Soil	ND	ND	5.2	100	<1.0	15	7.7	<5.0	<1.0	<0.10
RE102-15'	7/16/07	Soil	ND	ND	3.8	170	<1.0	28	7.2	<5.0	<1.0	<0.10
RE102-20'	7/16/07	Soil	ND	ND	2.2	77	<1.0	13	4.6	<5.0	<1.0	<0.10
RE102-30'	7/16/07	Soil	ND	ND	3.2	150	<1.0	31	8.4	<5.0	<1.0	<0.10
RE102-40'	7/16/07	Soil	ND	ND	2.0	77	<1.0	120	5.6	<5.0	<1.0	<0.10
RE102-50'	7/16/07	Soil	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE102-60'	7/16/07	Soil	ND	ND	4.0	260	<1.0	27	7.2	<5.0	<1.0	<0.10
RE102-70'	7/16/07	Soil	ND	ND	6.5	70	<1.0	5.9	5.7	<5.0	<1.0	<0.10
RE103-05'	7/20/07	Soil	ND	ND	6.3	88	<0.10	6.8	<0.50	<2.0	<0.30	<0.10
RE103-10'	7/20/07	Soil	ND	ND	<1.0	69	<0.10	26	<0.50	<2.0	<0.30	<0.10
RE103-15'	7/20/07	Soil	ND	ND	<1.0	28	<0.10	21	<0.50	<2.0	<0.30	<0.10
RE103-20'	7/20/07	Soil	ND	ND	<1.0	33	<0.10	8.2	<0.50	<2.0	<0.30	<0.10
RE103-40'	7/20/07	Soil	ND	ND	<1.0	33	<0.10	20	<0.50	<2.0	<0.30	<0.10
RE103-45'	7/20/07	Soil	ND	ND	<1.0	48	<0.10	11	<0.50	<2.0	<0.30	<0.10
RE103-50'	7/20/07	Soil	ND	ND	<1.0	28	<0.10	14	<0.50	<2.0	<0.30	<0.10
RE103-60'	7/20/07	Soil	ND	ND	5.2	120	<0.10	13	6.3	<2.0	<0.30	<0.10
RE103-70'	7/20/07	Soil	ND	ND	6.7	31	<0.10	6.4	<0.50	<2.0	<0.30	<0.10
RE103-70'FB	7/20/07	Water	ND	ND	<0.10	<0.010	<0.0010	<0.010	<0.015	<0.10	<0.010	<0.00050

TABLE 2
SOIL ANALYTICAL RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Sample Date	Sample Type	VOCs by EPA 8260B (mg/Kg)	SVOCs by EPA 8270C (mg/Kg)	Arsenic by EPA 6010B (mg/Kg)	Barium by EPA 6010B (mg/Kg)	Cadmium by EPA 6010B (mg/Kg)	Chromium by EPA 6010B (mg/Kg)	Lead by EPA 6010B (mg/Kg)	Selenium by EPA 6010B (mg/Kg)	Silver by EPA 6010B (mg/Kg)	Mercury by EPA 7471A (mg/Kg)
RE104-05'	7/23/07	Soil	ND	ND	5.8	110	<0.10	5.8	<0.50	<2.0	<0.30	<0.10
RE104-10'	7/23/07	Soil	ND	ND	26	240	<0.10	29	<0.50	<2.0	<0.30	<0.10
RE104-15'	7/23/07	Soil	ND	ND	<1.0	98	<0.10	19	<0.50	<2.0	<0.30	<0.10
RE104-20'	7/23/07	Soil	ND	ND	<1.0	36	<0.10	7.7	<0.50	<2.0	<0.30	<0.10
RE104-30'	7/23/07	Soil	ND	ND	7.8	120	<0.10	21	<0.50	<2.0	<0.30	<0.10
RE104-40'	7/23/07	Soil	ND	ND	<1.0	43	<0.10	33	<0.50	<2.0	<0.30	<0.10
RE104-45'	7/23/07	Soil	ND	ND	<1.0	35	<0.10	25	<0.50	<2.0	<0.30	<0.10
RE104-50'	7/23/07	Soil	ND	ND	7.3	52	<0.10	11	<0.50	<2.0	<0.30	<0.10
RE104-60'	7/23/07	Soil	ND	ND	12	110	<0.10	22	9.6	<2.0	<0.30	<0.10
RE104-70'	7/23/07	Soil	ND	ND	<1.0	150	<0.10	10	6.4	<2.0	<0.30	<0.10
RE105-05'	7/18/07	Soil	ND	ND	7.6	120	<0.10	9.1	<0.50	<2.0	<0.30	<0.10
RE105-10'	7/18/07	Soil	ND	ND	<1.0	44	<0.10	19	<0.50	<2.0	<0.30	<0.10
RE105-15'	7/18/07	Soil	ND	ND	6.7	57	<0.10	33	<0.50	<2.0	<0.30	<0.10
RE105-20'	7/18/07	Soil	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE105-30'	7/18/07	Soil	ND	ND	17	670	<0.10	18	50	<2.0	<0.30	<0.10
RE105-30'DUP	7/18/07	Soil	ND	ND	8.9	210	<0.10	16	6.5	<2.0	<0.30	<0.10
RE105-40'	7/18/07	Soil	ND	ND	6.0	47	<0.10	46	6.7	<2.0	<0.30	<0.10
RE105-45'	7/18/07	Soil	ND	ND	5.1	82	<0.10	7.6	<0.50	<2.0	<0.30	<0.10
RE105-50'	7/18/07	Soil	ND	ND	8.3	110	<0.10	12	7.2	<2.0	<0.30	<0.10
RE105-60'	7/18/07	Soil	ND	ND	13	120	<0.10	23	10	<2.0	<0.30	<0.10
RE105-70'	7/18/07	Soil	ND	ND	5.1	54	<0.10	6.7	<0.50	<2.0	<0.30	<0.10
RE106-05'	7/19/07	Soil	ND	ND	5.8	100	<0.10	11	<0.50	<2.0	<0.30	<0.10
RE106-10'	7/19/07	Soil	ND	ND	5.0	44	<0.10	36	5.6	<2.0	<0.30	<0.10
RE106-15'	7/19/07	Soil	ND	ND	7.4	50	<0.10	26	7.6	<2.0	<0.30	<0.10
RE106-20'	7/19/07	Soil	ND	ND	6.8	48	<0.10	33	7.3	<2.0	<0.30	<0.10
RE106-30'	7/19/07	Soil	ND	ND	5.7	110	<0.10	7.7	<0.50	<2.0	<0.30	<0.10
RE106-40'	7/19/07	Soil	ND	ND	5.2	60	<0.10	17	<0.50	<2.0	<0.30	<0.10
RE106-50'	7/19/07	Soil	ND	ND	<1.0	59	<0.10	12	<0.50	<2.0	<0.30	<0.10
RE106-60'	7/19/07	Soil	ND	ND	8.5	130	<0.10	13	6.2	<2.0	<0.30	<0.10
RE106-70'	7/19/07	Soil	ND	ND	7.8	70	<0.10	14	<0.50	<2.0	<0.30	<0.10

TABLE 2
SOIL ANALYTICAL RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Sample Date	Sample Type	VOCs by EPA 8260B (mg/Kg)	SVOCs by EPA 8270C (mg/Kg)	Arsenic by EPA 6010B (mg/Kg)	Barium by EPA 6010B (mg/Kg)	Cadmium by EPA 6010B (mg/Kg)	Chromium by EPA 6010B (mg/Kg)	Lead by EPA 6010B (mg/Kg)	Selenium by EPA 6010B (mg/Kg)	Silver by EPA 6010B (mg/Kg)	Mercury by EPA 7471A (mg/Kg)
RE107-05'	7/24/07	Soil	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE107-10'	7/24/07	Soil	ND	ND	6.8	19	<0.10	4.7	<0.50	<2.0	<0.30	<0.10
RE107-15'	7/24/07	Soil	ND	ND	<1.0	25	<0.10	9.4	<0.50	<2.0	<0.30	<0.10
RE107-20'	7/24/07	Soil	ND	ND	<1.0	140	<0.10	20	<0.50	<2.0	<0.30	<0.10
RE107-30'	7/24/07	Soil	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE107-40'	7/24/07	Soil	ND	ND	<1.0	49	<0.10	26	6.0	<2.0	<0.30	<0.10
RE107-45'	7/24/07	Soil	ND	ND	<1.0	32	<0.10	18	<0.50	<2.0	<0.30	<0.10
RE107-50'	7/24/07	Soil	ND	ND	<1.0	22	<0.10	16	<0.50	<2.0	<0.30	<0.10
RE107-60'	7/24/07	Soil	ND	ND	6.8	94	<0.10	15	6.6	<2.0	<0.30	<0.10
RE107-60'FB	7/24/07	Water	ND	ND	<0.10	<0.010	<0.0010	<0.010	<0.015	<0.10	<0.010	<0.00050
BIN-1	7/18/07	Soil	ND	ND	5.1	670	<0.10	15	<0.50	<2.0	<0.30	<0.10
RSRLs	-	-	-	-	10	15,000	39	2,100	400	390	390	23
NRSRLs	-	-	-	-	10	170,000	510		800	5,100	5,100	310
RPRGs	-	-	-	-	0.39	5,400	37	210	400	390	390	23
IPRGs	-	-	-	-	1.6	67,000	450	450	800	5,100	5,100	310
MGPL	-	-	-	-	35	12,000	29	590	290	290	-	12
SSL	-	-	-	-	29	1,600	8	38	-	5	34	-

NOTES: VOC = Volatile Organic Compounds analyzed by Environmental Protection Agency (EPA) Method 8260B
SVOC = Semi-Volatile Organic Compounds analyzed by EPA Method 8270C
All metals analyzed by EPA Method SW6010B, except Mercury, which was analyzed by EPA Method SW7471A
mg/kg = milligrams per kilogram
ADEQ = Arizona Department of Environmental Quality
RPRGs = EPA Region 9 Residential Preliminary Remediation Goals
IPRGs = EPA Region 9 Industrial Preliminary Remediation Goals
MGPL = ADEQ Minimum Groundwater Protection Level
SSL = EPA Region 9 Soil Screening Level
RSRLs = ADEQ Residential Soil Remediation Levels
NRSRLs = ADEQ Non-Residential Soil Remediation Levels
BOLD = Analyte detected above the PRGs and/or RSRLs
NA = Not Analyzed due to limited sample recovery
ND= Not detected
Y= Analyte detected greater than the reporting limit

TABLE 3
HISTORICAL GROUNDWATER ELEVATION DATA
Former Romic Environmental Technology Facility
Lone Butte Industrial Park, Arizona

Well Name	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Depth to Water (feet amsl)
Lone Butte-4 (LB-4)	8/20/2007	1150.6	72.16	1078.44
	11/2/2007	1150.6	72.71	1077.89
	11/3/2008	1150.6	68.93	1081.67
	6/15/2009	1150.6	69.31	1081.29
	8/31/2009	1150.6	68.48	1082.12
	3/8/2010	1150.6	66.08	1084.52
	8/9/2010	1150.6	65.98	1084.62
Lone Butte-5 (LB-5)	8/20/2007	1146.72	70.03	1076.69
	11/2/2007	1146.72	70.56	1076.16
	11/3/2008	1146.72	66.45	1080.27
	6/15/2009	1146.72	67.10	1079.62
	8/31/2009	1146.72	66.36	1080.36
	3/8/2010	1146.72	63.7	1083.02
	8/9/2010	1146.72	63.99	1082.73
Lone Butte-6 (LB-6)	8/20/2007	1155.54	75.95	1079.59
	11/2/2007	1155.54	76.58	1078.96
	11/3/2008	1155.54	72.90	1082.64
	6/15/2009	1155.54	72.89	1082.65
	8/31/2009	1155.54	72.03	1083.51
	3/8/2010	1155.54	69.84	1085.70
	8/9/2010	1155.54	62.47	1093.07
Romic Environmental-101 (RE-101)	8/20/2007	1157.97	79.25	1078.72
	11/2/2007	1157.97	79.81	1078.16
	11/3/2008	1157.97	76.04	1081.93
	6/15/2009	1157.97	76.39	1081.58
	8/31/2009	1157.97	75.41	1082.56
	3/8/2010	1157.97	73.16	1084.81
	8/9/2010	1157.97	72.84	1085.13
Romic Environmental-102 (RE-102)	8/20/2007	1159.81	80.99	1078.82
	11/2/2007	1159.81	81.56	1078.25
	11/3/2008	1159.81	77.81	1082.00
	6/15/2009	1159.81	78.05	1081.76
	8/31/2009	1159.81	77.14	1082.67
	3/8/2010	1159.81	74.89	1084.92
	8/9/2010	1159.81	74.58	1085.23
Romic Environmental-103 (RE-103)	8/20/2007	1151.92	73.43	1078.49
	11/2/2007	1151.92	73.99	1077.93
	11/3/2008	1151.92	70.34	1081.58
	6/15/2009	1151.92	70.62	1081.3
	8/31/2009	1151.92	69.60	1082.32
	3/8/2010	1151.92	67.48	1084.44
	8/9/2010	1151.92	67.13	1084.79

TABLE 3
HISTORICAL GROUNDWATER ELEVATION DATA
Former Romic Environmental Technology Facility
Lone Butte Industrial Park, Arizona

Well Name	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Depth to Water (feet amsl)
Romic Environmental-104 (RE-104)	8/20/2007	1152.90	74.32	1078.58
	11/2/2007	1152.90	75.00	1077.90
	11/3/2008	1152.90	71.23	1081.67
	6/15/2009	1152.90	71.63	1081.27
	8/31/2009	1152.90	70.69	1082.21
	3/8/2010	1152.90	68.36	1084.54
	8/9/2010	1152.90	68.14	1084.76
Romic Environmental-105 (RE-105)	8/20/2007	1152.84	74.37	1078.47
	11/2/2007	1152.84	74.96	1077.88
	11/3/2008	1152.84	71.15	1081.69
	6/15/2009	1152.84	71.44	1081.4
	8/31/2009	1152.84	70.63	1082.21
	3/8/2010	1152.84	68.30	1084.54
	8/9/2010	1152.84	68.09	1084.75
Romic Environmental-106 (RE-106)	8/20/2007	1152.82	74.34	1078.48
	11/2/2007	1152.82	74.96	1077.86
	11/3/2008	1152.82	71.12	1081.70
	6/15/2009	1152.82	71.52	1081.30
	8/31/2009	1152.82	70.58	1082.24
	3/8/2010	1152.82	68.26	1084.56
	8/9/2010	1152.82	68.02	1084.80
Romic Environmental-107 (RE-107)	8/20/2007	1152.48	73.88	1078.60
	11/2/2007	1152.48	74.49	1077.99
	11/3/2008	1152.48	70.83	1081.65
	6/15/2009	1152.48	71.10	1081.38
	8/31/2009	1152.48	70.19	1082.29
	3/8/2010	1152.48	67.89	1084.59
	8/9/2010	1152.48	67.63	1084.85
Romic Environmental-108 (RE-108)	8/7/2009	1158.13	75.45	1082.68
	8/21/2009	1158.13	74.96	1083.17
	8/31/2009	1158.13	74.97	1083.16
	3/8/2010	1158.13	72.74	1085.39
	8/9/2010	1158.13	72.45	1085.68
Romic Environmental-109 (RE-109)	8/6/2009	1152.78	71.20	1081.58
	8/20/2009	1152.78	71.21	1081.57
	8/31/2009	1152.78	71.29	1081.49
	3/8/2010	1152.78	68.83	1083.95
	8/9/2010	1152.78	68.75	1084.03

Notes:

feet amsl = Feet above mean sea level

feet bmp = Feet below measuring point

TABLE 4
JULY - AUGUST 2010 GROUNDWATER ANALYTICAL RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bls)	Sample Date	Sampled By	QC Sample	PCE (µg/L)	TCE (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	1,2-DCA (µg/L)	cis-1,2-DCE (µg/L)	Chloroform (µg/L)	Freon 113 (µg/L)
AD-11	90	8/9/2010	GRIC		<0.50	1.0	<0.50	ND	ND	ND	ND	ND
GFW	87	8/9/2010	GRIC		<0.50	48	7.2	ND	ND	ND	ND	ND
HC-9	121	8/9/2010	GRIC		3.2	1.4	1.1	ND	ND	ND	ND	ND
LB-1	88	8/9/2010	GRIC		<0.50	150	18.0	ND	ND	ND	ND	ND
LB-2	88	8/9/2010	GRIC		0.60	9.2	1.8	ND	ND	ND	ND	ND
LB-3	97	8/9/2010	GRIC		0.90	<0.50	1.0	ND	ND	ND	ND	ND
LB-4	87	8/11/2010	CCA		34	25	14	<1.0	1.3	<1.0	<5.0	2.2
	92	8/9/2010	GRIC		2.3	1.4	<0.50	ND	ND	ND	ND	ND
	92	8/9/2010	GRIC	Duplicate	2.3	1.4	<0.50	ND	ND	ND	ND	ND
LB-5	85	8/11/2010	CCA		20	12	7.1	<1.0	<1.0	<1.0	<5.0	1.3
	85	8/11/2010	CCA	Duplicate	19	12	5.9	<1.0	<1.0	<1.0	<5.0	1.2
	76	8/9/2010	GRIC		10	6.6	3.2	ND	ND	ND	ND	ND
LB-7R	90	7/29/2010	AMEC		<5.0	770	110	NA	NA	NA	NA	NA
LB-8	198	8/9/2010	GRIC		<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
LB-10	118	8/9/2010	GRIC		6.2	3.3	1.8	ND	ND	ND	ND	ND
LB-11	118	8/9/2010	GRIC		0.74	<0.50	<0.50	ND	ND	ND	ND	ND
LB-12	118	8/9/2010	GRIC		<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
LB-13	124	8/9/2010	GRIC		<0.50	8.4	1.2	ND	ND	ND	ND	ND
LB-14	138	8/20/2010	GRIC		<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
LB-15	105	8/9/2010	GRIC		2.3	0.98	1.5	ND	ND	ND	ND	ND
LB-16	62-138 ¹	8/20/2010	GRIC		<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
	110	8/20/2010	GRIC	Duplicate	<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
MW-18	105	8/9/2010	GRIC		<0.50	<0.50	<0.50	ND	ND	ND	ND	ND
PT-1D	120	7/29/2010	AMEC		<0.50	<0.50	<0.50	NA	NA	NA	NA	NA
PT-1S	90	7/29/2010	AMEC		<0.50	23	7.3	NA	NA	NA	NA	NA
PT-2D	120	7/29/2010	AMEC		<0.50	12	3.4	NA	NA	NA	NA	NA
PT-2S	90	7/29/2010	AMEC		<10	1400	180	NA	NA	NA	NA	NA
RE101	87	8/10/2010	CCA		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0
RE103	82	8/10/2010	CCA		73	14	1.1	<1.0	8.0	<1.0	<5.0	<1.0
RE104	82	8/10/2010	CCA		1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0
RE106	82	8/10/2010	CCA		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0
RE107	82	8/10/2010	CCA		71	45	5.9	1.2	1.1	1.9	<5.0	<1.0
	82	8/10/2010	CCA	Duplicate	70	44	5.5	1.2	1.1	1.9	<5.0	<1.0
RE108	87	8/11/2010	CCA		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0
RE109	88	8/11/2010	CCA		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0
MCLs		-			5	5	7	7	5	70	80	1,200
PRGs		-			0.1	0.028	340	810	0.12	61	0.17	59,000

NOTES:

µg/L = micrograms per Liter

ND = Not detected

NA = Not analyzed

CCA = Clear Creek Associates, AMEC = AMEC Geomatrix, GRIC = Gila River Indian Community

¹ GRIC collected 20 samples at specific intervals between 62 and 138 feet bls; the analytical results are ND for all samples.

PRGs = EPA Region 9 Preliminary Remediation Goals

MCLs = EPA Maximum Contamination Levels

BOLD = Analyte detected above the MCLs

PCE = Tetrachloroethene

TCE = Trichloroethene

1,1-DCE = 1,1-Dichloroethene

1,1-DCA = 1,1-Dichloroethane

1,2-DCA = 1,2-Dichloroethane

cis-1,2-DCE = cis-1,2-dichloroethene

Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane

TABLE 5
DISSOLVED OXYGEN/OXYGEN REDUCTION POTENTIAL PARAMETER RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bls)	Sample Date	Dissolved Oxygen (mg/L)	ORP (mV)
LB-4	87	8/29/2007	5.96	159
		11/4/2008	5.39	88
		6/16/2009	5.64	84
		9/1/2009	5.40	83
		3/9/2010	4.37	19
		8/11/2010	4.07	23
LB-5	85	8/29/2007	7.00	178
		11/4/2008	5.16	79
		6/16/2009	6.23	94
		9/1/2009	6.30	77
		3/9/2010	4.66	12
		8/11/2010	4.39	25
RE101	82	8/27/2007	6.28	178
		10/29/2007	6.61	141
	87	8/27/2007	6.28	167
		10/29/2007	5.78	152
		11/5/2008	5.75	78
		6/16/2009	5.34	77
		9/1/2009	5.32	46
		3/10/2010	4.37	2.0
		8/10/2010	4.32	9.0
	92	8/27/2007	6.25	165
		10/29/2007	5.77	155
	97	8/27/2007	5.9	169
		10/29/2007	5.83	157
	102	8/27/2007	5.84	161
		10/30/2007	5.40	127
RE102	84	8/28/2007	5.25	182
		10/30/2007	4.38	139
	89	8/28/2007	4.95	182
		10/30/2007	4.42	145
		11/5/2008	4.42	105
	94	8/28/2007	4.83	177
		10/30/2007	4.43	152
	99	8/28/2007	4.76	180
		10/30/2007	4.41	155
RE103	77	8/23/2007	7.47	166
		10/25/2007	7.63	127
	82	8/23/2007	7.51	174
		10/26/2007	6.84	138
		11/5/2008	6.83	62
		6/16/2009	5.01	67
		9/2/2009	5.29	29
		3/10/2010	4.74	8.0
		8/10/2010	4.27	12
	87	8/23/2007	7.09	178
		10/26/2007	6.65	153

TABLE 5
DISSOLVED OXYGEN/OXYGEN REDUCTION POTENTIAL PARAMETER RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bls)	Sample Date	Dissolved Oxygen (mg/L)	ORP (mV)
RE103	92	8/24/2007	7.43	183
		10/26/2007	6.39	155
	97	8/24/2007	7.35	183
		10/26/2007	6.34	153
RE104	77	8/22/2007	6.12	157
		10/23/2007	3.73	162
	82	8/23/2007	5.63	168
		10/23/2007	4.19	162
		11/4/2008	3.81	83
		6/17/2009	5.05	82
		9/2/2009	5.01	69
		3/10/2010	4.02	16
		8/10/2010	3.61	0
	87	8/23/2007	5.89	163
		10/23/2007	4.73	152
	92	8/23/2007	5.60	170
		10/23/2007	4.54	169
	97	8/23/2007	5.74	156
		10/24/2007	5.20	144
RE105	77	8/22/2007	5.08	146
		10/24/2007	4.90	155
	82	8/22/2007	5.25	156
		10/24/2007	5.08	152
		11/4/2008	3.82	92
	87	8/22/2007	5.24	156
		10/24/2007	4.51	150
	92	8/22/2007	5.44	159
		10/24/2007	4.56	153
	97	8/22/2007	5.16	155
		10/24/2007	4.55	152
RE106	77	8/21/2007	7.27	191
		10/25/2007	6.37	150
	82	8/21/2007	7.64	197
		10/25/2007	5.57	165
		11/5/2008	4.91	86
		6/17/2009	5.59	91
		9/2/2009	5.71	54
		3/10/2010	4.73	14
		8/10/2010	4.19	-2.0
	87	8/21/2007	7.81	193
		10/25/2007	5.37	163
	92	8/21/2007	7.84	182
		10/25/2007	5.26	166
	97	8/21/2007	8.07	184
		10/25/2007	5.15	159

TABLE 5
DISSOLVED OXYGEN/OXYGEN REDUCTION POTENTIAL PARAMETER RESULTS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bls)	Sample Date	Dissolved Oxygen (mg/L)	ORP (mV)
RE107	77	8/24/2007	6.60	181
		10/26/2007	6.59	130
	82	8/24/2007	7.23	183
		10/26/2007	6.67	162
		11/5/2008	6.96	66
		6/16/2009	6.63	72
		9/2/2009	6.70	56
		3/10/2010	5.74	12
		8/10/2010	4.74	6.0
	87	8/24/2007	6.37	170
		10/26/2007	5.71	169
	92	8/24/2007	5.43	154
		10/29/2007	6.23	151
	97	8/24/2007	5.02	175
		10/29/2007	5.68	155
RE108	82	8/21/2009	4.10	90
	87	8/21/2009	4.10	74
		9/1/2009	4.09	57
		3/9/2010	3.71	11
		8/11/2010	3.29	6.0
	92	8/21/2009	4.05	68
	97	8/21/2009	4.03	68
RE109	76	8/20/2009	4.96	80
	82	8/20/2009	5.19	69
	88	8/20/2009	5.21	66
		9/1/2009	4.89	64
		3/9/2010	4.05	8.0
		8/11/2010	3.96	1.0
	94	8/20/2009	5.27	64

NOTES:

mg/L = milligrams per Liter

mV = millivolts

TABLE 6
HISTORICAL PCE CONCENTRATION REDUCTION
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bgs)	Sample Date	PCE (µg/L)	Percent Reduction
LB-4	87	8/29/2007	140	75.7
		8/11/2010	34	
LB-5	85	8/29/2007	24	20.8
		8/11/2010	19	
RE103	82	8/23/2007	93	21.5
		8/10/2010	73	
RE107	82	8/24/2007	280	75
		8/10/2010	70	
MCLs			5	
PRGs			0.1	

NOTES:

VOC = Volatile Organic Compounds analyzed by Environmental Protection Agency (EPA) Method 8260B

bgs = below ground surface

µg/L = micrograms per Liter

PRGs = EPA Region 9 Preliminary Remediation Goals

MCLs = EPA Maximum Contamination Levels

BOLD = Analyte detected above the MCLs

PCE = Tetrachloroethene

TABLE 7
HISTORICAL TCE CONCENTRATION REDUCTION
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Sample ID	Depth Interval (bgs)	Sample Date	TCE (µg/L)	Percent Reduction
LB-4	87	8/29/2007	130	80.8
		8/11/2010	25	
LB-5	85	8/29/2007	20	40
		8/11/2010	12	
RE103	82	8/23/2007	56	75
		8/10/2010	14	
RE107	82	8/24/2007	250	82
		8/10/2010	44	
MCLs			5	
PRGs			0.1	

NOTES:

VOC = Volatile Organic Compounds analyzed by Environmental Protection Agency (EPA) Method 8260B

bgs = below ground surface

µg/L = micrograms per Liter

PRGs = EPA Region 9 Preliminary Remediation Goals

MCLs = EPA Maximum Contamination Levels

BOLD = Analyte detected above the MCLs

TCE = Trichloroethene

TABLE 8
PCE MASS CALCULATION
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Plume Segment	Length (ft)	Width (ft)	Depth (ft)	Total Volume (ft ³)	Pore Filled Volume (ft ³) ²	Gals per ft ³	Volume of Water in Area (gals)
1	733	300	15	3,298,500	824,625	7.481	6,169,019.63
2	1,760	300	15	7,920,000	1,980,000	7.481	14,812,380.00
3	6,219	300	7.5 ¹	13,992,750	3,498,188	7.481	13,084,970.34
Volume of Water in Area (gal) * Concentration (µg/L) * 1e-6 g/µg * 2.205e-3 lb/g * 3.78 L/gal							
Plume Segment 1 6,169,019.63 Gals 53.5 PCE (µg/L) ³ 0.000001 g/µg 0.002205 lb/g 3.788 L/gal		Plume Segment 2 14,812,380.00 Gals 27 PCE (µg/L) 0.000001 g/µg 0.002205 lb/g 3.788 L/gal		Plume Segment 3 13,084,970.34 Gals 13 PCE (µg/L) ⁴ 0.000001 g/µg 0.002205 lb/g 3.788 L/gal			
2.76 lbs in Segment 1		3.34 Lbs in Segment 2		1.42 Lbs in Segment 3			
7.52 Lbs PCE in Plume 1.623 Specific Gravity 13.52 Lbs/Gal ⁵							
0.56 Gals of PCE in Plume							

Notes:

Segment 1 = The portion of the plume between wells RE103/RE107 and LB-4

Segment 2 = The portion of the plume between wells LB-4 and LB-5

Segment 3 = The portion of the plume between wells LB-5 and LB-10

¹ Assume one half the volume to account for reduced plume thickness at distal end

² Assume 25% porosity

³ Median concentration of plume segment

⁴ Assume approx. Mid-Point concentration between LB-5 and 5 µg/L plume boundary

⁵ 1 gal H₂O = 8.33 lbs

TABLE 9
TCE MASS CALCULATION
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Plume Segment	Length (ft)	Width (ft)	Depth (ft)	Total Volume (ft ³)	Pore Filled Volume (ft ³) ²	Gals per ft ³	Volume of Water in Area (gals)
1	733	300	15	3,298,500	824,625	7.481	6,169,019.63
2	1,760	300	15	7,920,000	1,980,000	7.481	14,812,380.00
3	6,219	300	7.5 ¹	13,992,750	3,498,188	7.481	13,084,970.34
Volume of Water in Area (gal) * Concentration (µg/L) * 1e-6 g/µg * 2.205e-3 lb/g * 3.78 L/gal							
Plume Segment 1 6,169,019.63 Gals 35 TCE (µg/L) 0.000001 g/µg 0.002205 lb/g 3.788 L/gal		Plume Segment 2 14,812,380.00 Gals 18.5 TCE (µg/L) 0.000001 g/µg 0.002205 lb/g 3.788 L/gal		Plume Segment 3 13,084,970.34 Gals 7.5 TCE (µg/L) ³ 0.000001 g/µg 0.002205 lb/g 3.788 L/gal			
1.80 lbs in Segment 12.29 Lbs in Segment 20.82 Lbs in Segment 3							
4.91 Lbs TCE in Plume 1.464 Specific Gravity 12.19512 Lbs/Gal ⁴							
0.40 Gals of TCE in Plume							

Notes:

Segment 1 = The portion of the plume between wells RE103/RE107 and LB-4

Segment 2 = The portion of the plume between wells LB-4 and LB-5

Segment 3 = The portion of the plume between wells LB-5 and LB-10

¹ Assume one half the volume to account for reduced plume thickness at distal end

² Assume 25% porosity

³ Assume approx. Mid-Point concentration between LB-5 and 5 µg/L plume boundary

⁴ 1 gal H₂O = 8.33 lbs

TABLE 10
SOIL GAS HUMAN HEALTH SCREENING LEVELS
Former Romic Environmental Technologies Facility
Lone Butte Industrial Park, Arizona

Soil Vapor Chemicals	US EPA Indoor Air Regional Screening Levels (RSLs) May 2010	Attenuation Factors (alpha) ¹ (from Cal EPA, February 2005)		Soil Gas Human Health Screening Levels (SGHSLs) 1.0E-06 Risk Level		Maximum Concentrations Noted In Post Rebound Samples Collected From The Shallow SVE Wells At The Former Romic Site (µg/m ³)	Well
	A	C	D	A/C	A/D		
	Industrial (µg/m ³) ²	Existing (unitless)	Future (unitless)	Existing (µg/m ³)	Future (µg/m ³)		
Acetone	1.4E+05	1.0E-03	4.0E-04	1.4E+08	3.4E+08	2.7E+02	SVE-2S
Benzene	1.6E+00	1.0E-03	4.0E-04	1.6E+03	4.0E+03	4.6E+01	SVE-6S
2-Butanone (MEK)	2.2E+04	1.0E-03	4.0E-04	2.2E+07	5.5E+07	1.8E+03	SVE-4S
Carbon Disulfide	3.7E+03	1.0E-03	4.0E-04	3.7E+06	9.3E+06	1.2E+03	SVE-2S
Carbon Tetrachloride	8.2E-01	1.0E-03	4.0E-04	8.2E+02	2.1E+03	<6.8	SVE-3S
Chloroform	5.3E-01	1.0E-03	4.0E-04	5.3E+02	1.3E+03	1.5E+01	SVE-2S
Cumene	1.8E+03	1.0E-03	4.0E-04	1.8E+06	4.4E+06	<5.7	SVE-6S
Cyclohexane	2.6E+04	1.0E-03	4.0E-04	2.6E+07	6.6E+07	4.6E+01	SVE-6S
1,2-Dichlorobenzene	8.8E+02	1.0E-03	4.0E-04	8.8E+05	2.2E+06	9.1E+01	SVE-4S
1,1-Dichloroethane	7.7E+00	1.0E-03	4.0E-04	7.7E+03	1.9E+04	<18	SVE-4S
1,2-Dichloroethane	4.7E-01	1.0E-03	4.0E-04	4.7E+02	1.2E+03	3.5E+01	SVE-3S
1,1-Dichloroethene	8.8E+02	1.0E-03	4.0E-04	8.8E+05	2.2E+06	1.9E+02	SVE-1
cis-1,2-Dichloroethene ³	2.6E+02	1.0E-03	4.0E-04	2.6E+05	6.5E+05	1.1E+01	SVE-5S
trans-1,2-Dichloroethene	2.6E+02	1.0E-03	4.0E-04	2.6E+05	6.5E+05	Not Reported	
1,4-dioxane	1.6E+00	1.0E-03	4.0E-04	1.6E+03	4.0E+03	1.8E+01	SVE-2S
Ethylbenzene	4.9E+00	1.0E-03	4.0E-04	4.9E+03	1.2E+04	<5	SVE-6S
4-Ethyltoluene		1.0E-03	4.0E-04			<5.7	SVE-6S
Heptane		1.0E-03	4.0E-04			<4.7	SVE-6S
Hexane	3.1E+03	1.0E-03	4.0E-04	3.1E+06	7.7E+06	<3.8	SVE-3S
Methylene Chloride	2.6E+01	1.0E-03	4.0E-04	2.6E+04	6.5E+04	1.0E+01	SVE-2S
2-Propanol	3.7E+04	1.0E-03	4.0E-04	3.7E+07	9.3E+07	Not Reported	
Propylbenzene	4.4E+03	1.0E-03	4.0E-04	4.4E+06	1.1E+07	<5.7	SVE-6S
Styrene	4.4E+03	1.0E-03	4.0E-04	4.4E+06	1.1E+07	<4.9	SVE-6S
1,1,2,2-Tetrachloroethane	2.1E-01	1.0E-03	4.0E-04	2.1E+02	5.3E+02	Not Reported	
Tetrachloroethene (PCE)	2.1E+00	1.0E-03	4.0E-04	2.1E+03	5.3E+03	2.6E+03	SVE-3S
Tetrahydrofuran		1.0E-03	4.0E-04			1.5E+04	SVE-4S
Toluene	2.2E+04	1.0E-03	4.0E-04	2.2E+07	5.5E+07	<17	SVE-4S
1,1,1-Trichloroethane	2.2E+04	1.0E-03	4.0E-04	2.2E+07	5.5E+07	1.4E+01	SVE-5S
1,1,2-Trichloroethane	7.7E-01	1.0E-03	4.0E-04	7.7E+02	1.9E+03	<24	SVE-4S
Trichloroethene (TCE)	6.1E+00	1.0E-03	4.0E-04	6.1E+03	1.5E+04	4.5E+02	SVE-3S
1,2,4-Trimethylbenzene	3.1E+01	1.0E-03	4.0E-04	3.1E+04	7.7E+04	<5.7	SVE-6S
1,3,5-Trimethylbenzene		1.0E-03	4.0E-04			<5.7	SVE-6S
2,2,4-Trimethylpentane		1.0E-03	4.0E-04			6.0E+00	SVE-2S
Freon 11	3.1E+03	1.0E-03	4.0E-04	3.1E+06	7.7E+06	3.8E+01	SVE-3S
Trichlorotrifluoroethane (F-113)	1.3E+05	1.0E-03	4.0E-04	1.3E+08	3.3E+08	1.3E+02	SVE-1
m,p-xylene	3.1E+03	1.0E-03	4.0E-04	3.1E+06	7.7E+06	5.9E+00	SVE-6S
o-xylene	3.1E+03	1.0E-03	4.0E-04	3.1E+06	7.7E+06	<19	SVE-4S

Notes:

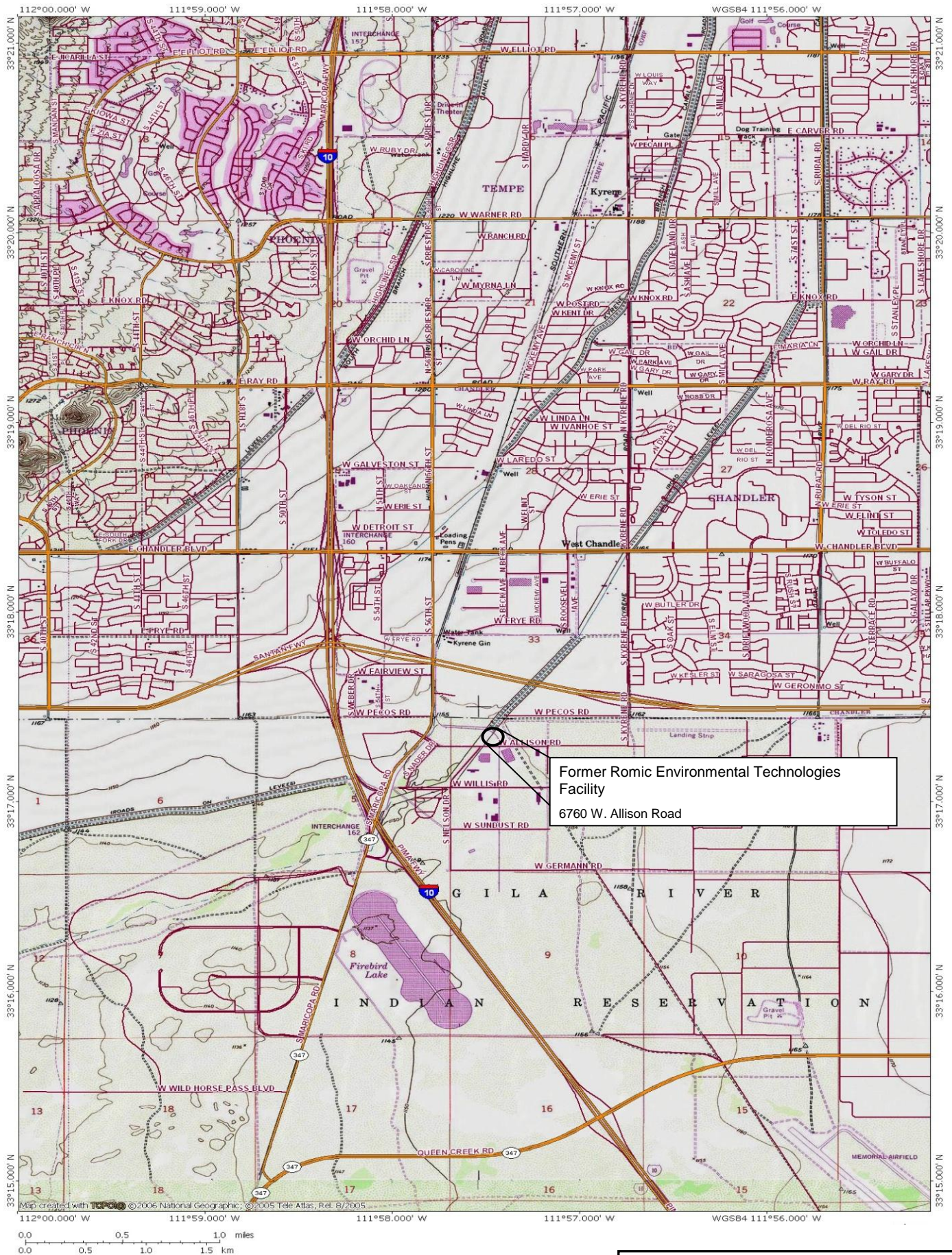
¹ Attenuation factors are from Table 2 for a commercial building, slab-on-grade

² µg/m³ = micrograms per cubic meter

³ At this time, indoor air RSLs are not available for this compound so the trans-1,2-DCE isomer was used as a surrogate value

BOLD = Concentration exceeds US EPA Indoor Air Regional Screening Levels (RSLs)

FIGURES



Vicinity Map

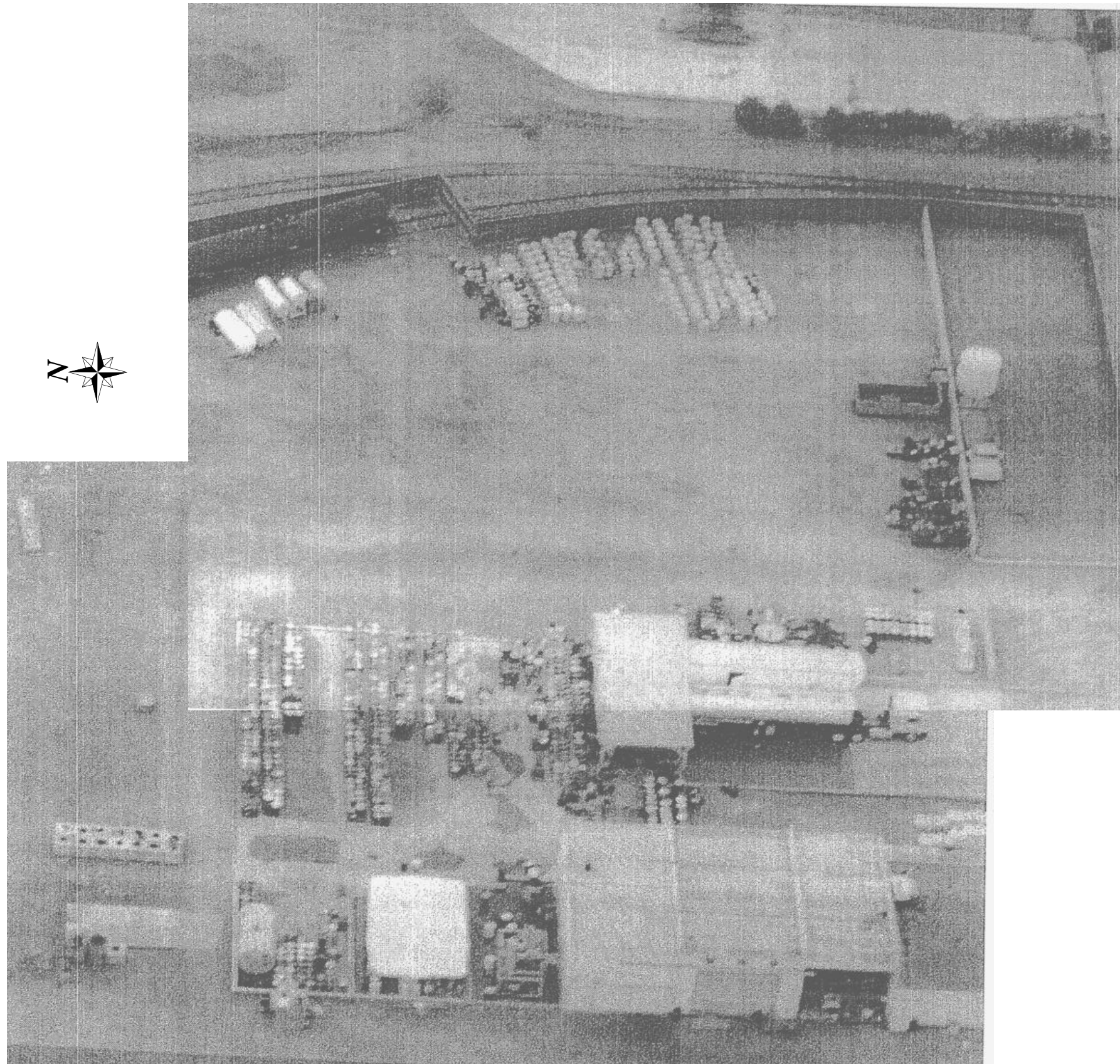
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Figure 1

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Historical Aerial Photo (Est. Late 1980s)

Photos reproduced from correspondence between Romic and Booth Allen and Hamilton dated July 14, 2003. Photos from late 1980s to early 1990s.

**FORMER SMU LOCATION MAP
(SMUs 1-12)**



Note: Approximate locations of former SMUs 1-12 depicted on 2007 Aerial photo of Romic facility.



Soil Excavation Location Map

EXPLANATION

- ☒ Area 1 - Emcon, June 1993
- ☒ Area 2 - Emcon, June 1993
- ☒ Area 3 - Emcon, June 1993
- ☒ Area 4 - Emcon, June 1993
- ☒ Area 5 - Emcon, June 1993
- ☒ Area 6 - Emcon, June 1993
- ☒ Area 7 - Emcon, June 1993
- ☒ Area 8 - Emcon, June 1993
- ☒ Proposed Excavation - HLA, October 1989; Romic, November 1990

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Figure 4

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SMU LOCATION MAP (SMUs 13-28)



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Figure 5

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HISTORICAL AERIAL PHOTO (Est. Early 1990s)

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Figure 6

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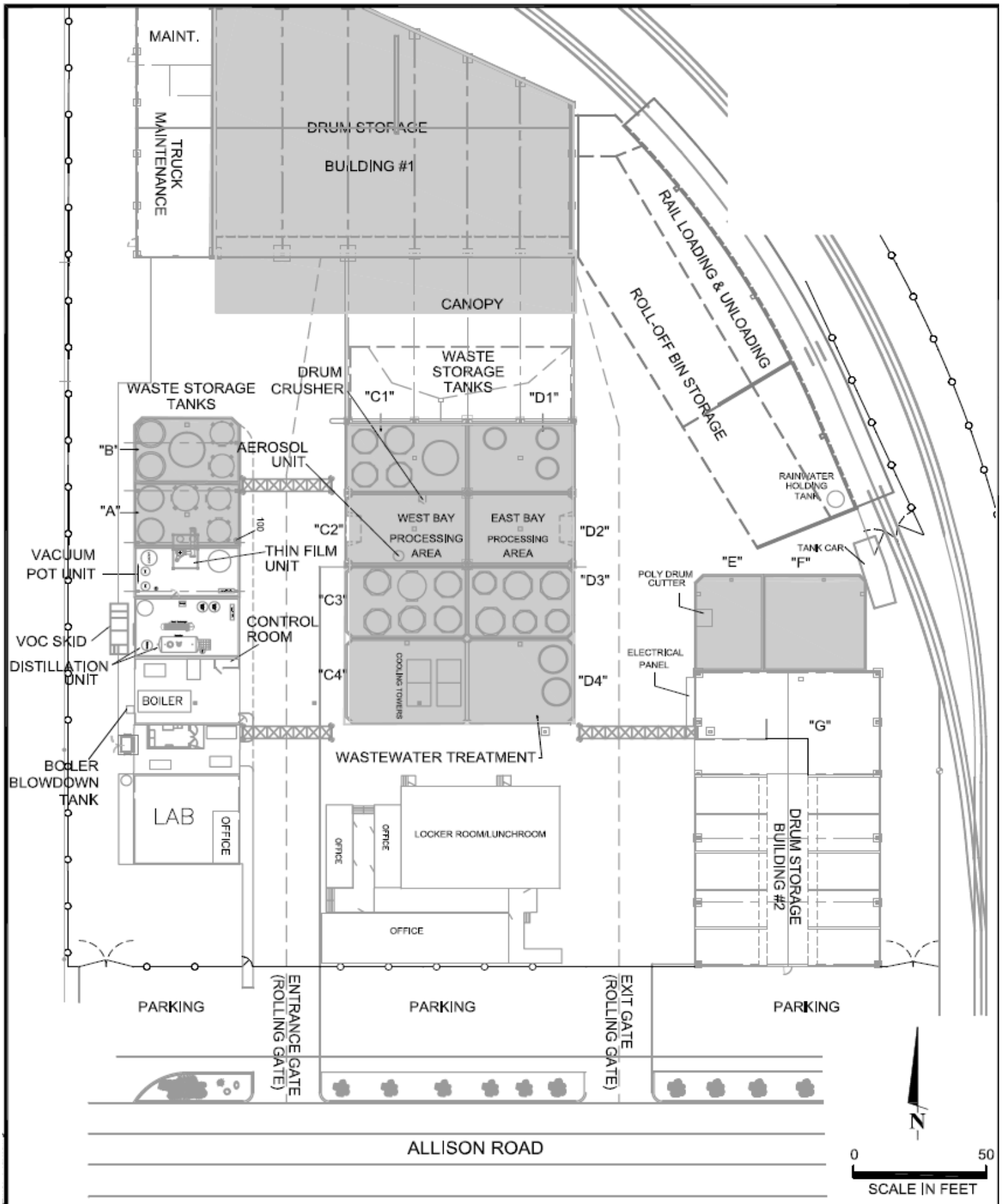


Figure reproduced from Iris Environmental's March 21, 2008 correspondence

ESTIMATED SUBSLAB LINER LOCATIONS

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Figure 7

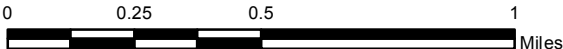
May 2011



WELL LOCATION MAP

Explanation

-  Monitor Well
-  Agricultural Well
-  Drinking Water Well
-  COP
-  POC Well



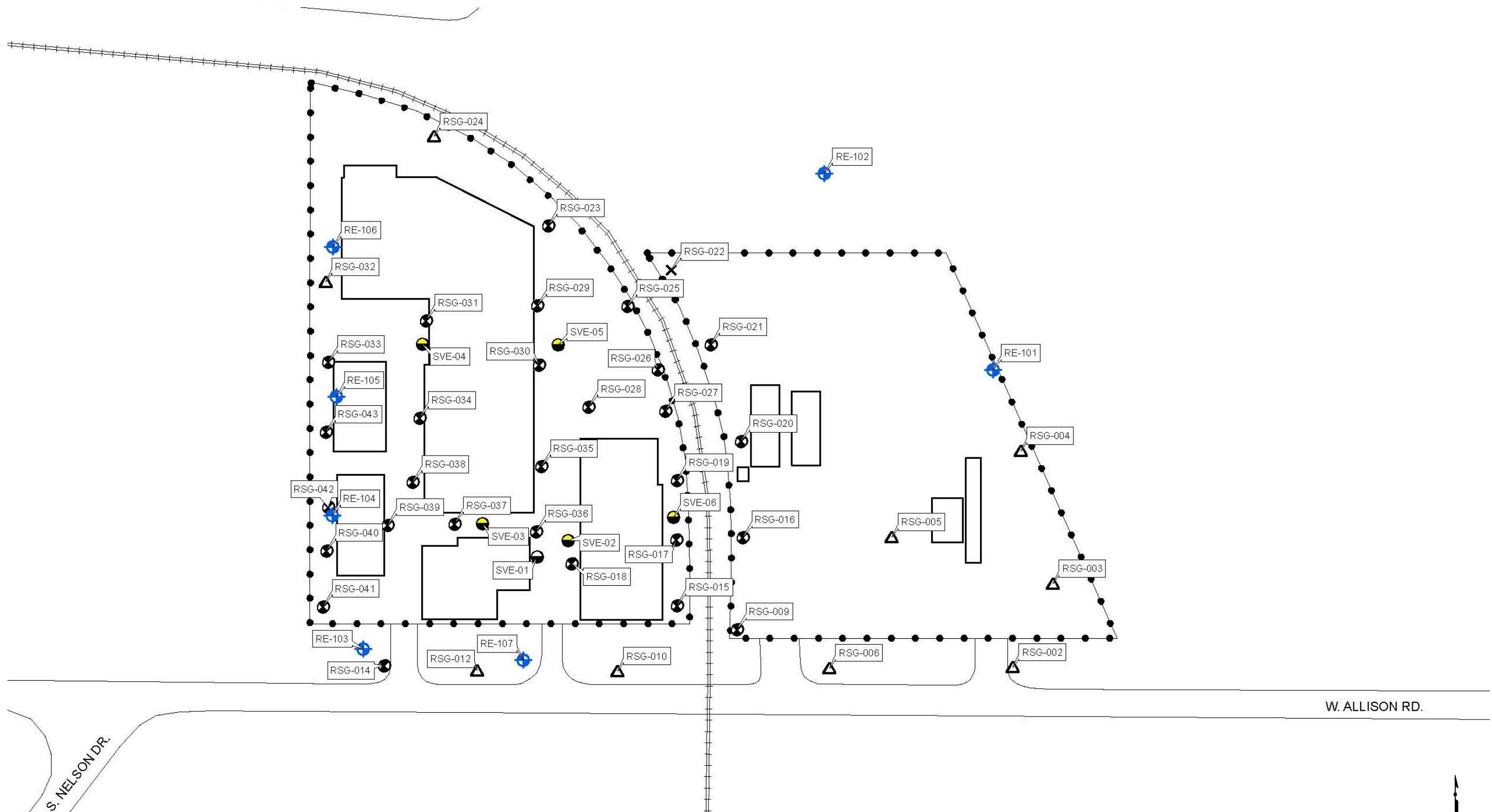
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Figure 8

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LEGEND

- | | | | | | |
|---|--------------------------|---|-------------------|---|---|
|  | Groundwater monitor well |  | Property boundary |  | Single-depth soil gas sampling location |
|  | SVE well |  | Building |  | Dual-depth soil gas sampling location |
|  | Nested SVE well |  | Railroad |  | Soil gas location not sampled |

BORING LOCATION MAP

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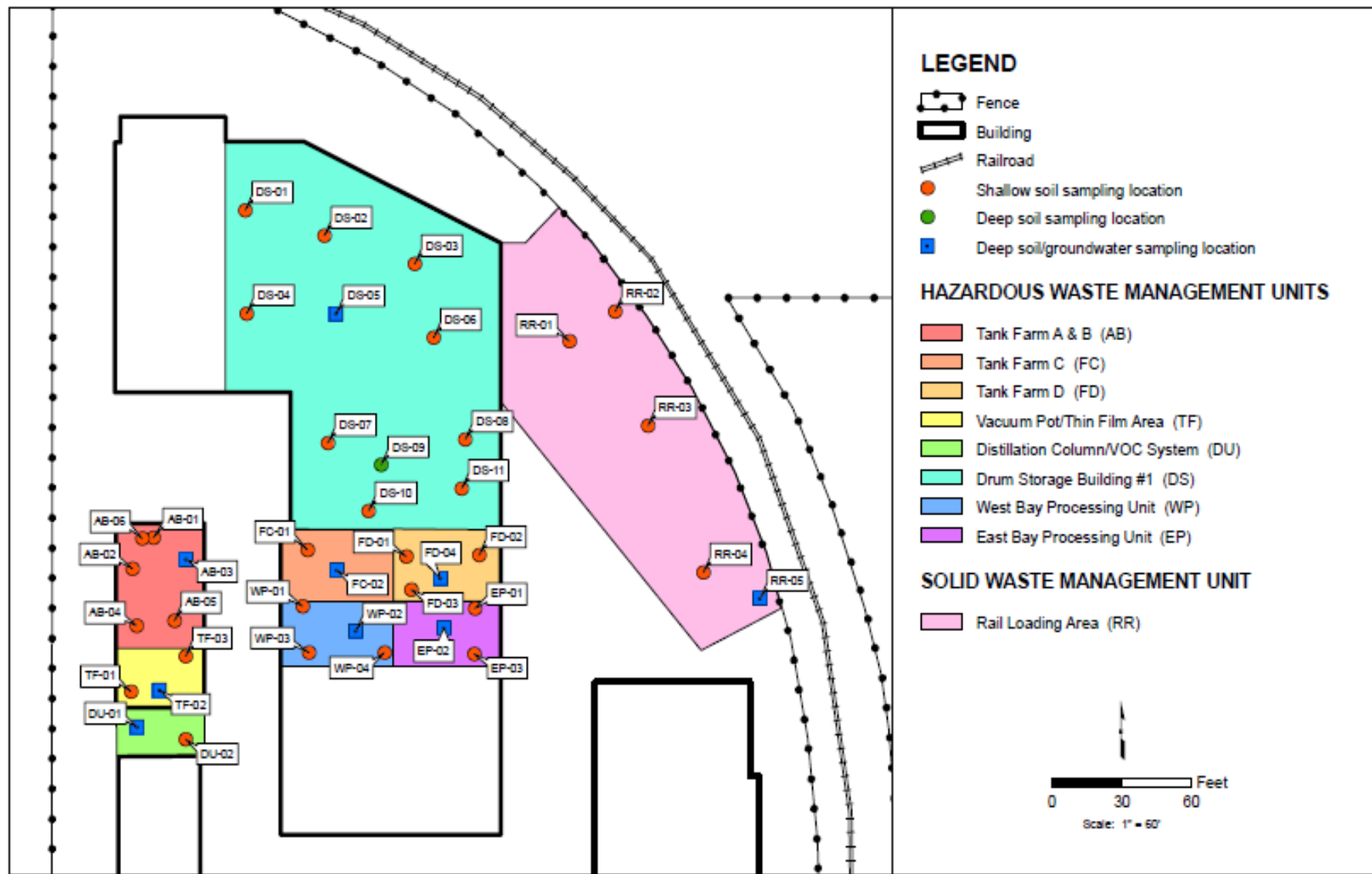


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Figure 9

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Figure reproduced from LFR's March 2009 Deep Soil Gas and Groundwater Sampling Summary Report (LFR, 2009)



RCRA CLOSURE BORING LOCATION MAP

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Figure 10

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Note: Figure derived from LFR's 2009 RCRA Closure Report



Groundwater Elevations (July 2010)

Explanation

- ▲ Agricultural Well
- ◆ Monitor Well
- Aug 2010
- World Imagery

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Groundwater Elevation Data collected
 on 7/26/2010 by GRIC DEQ

* Well data not used in contouring

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Figure 11

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Explanation

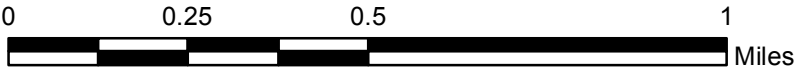
July/August 2010 PCE Concentration (ug/L)

PCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

**PCE Extent in Regional Aquifer
(July - August 2010)**

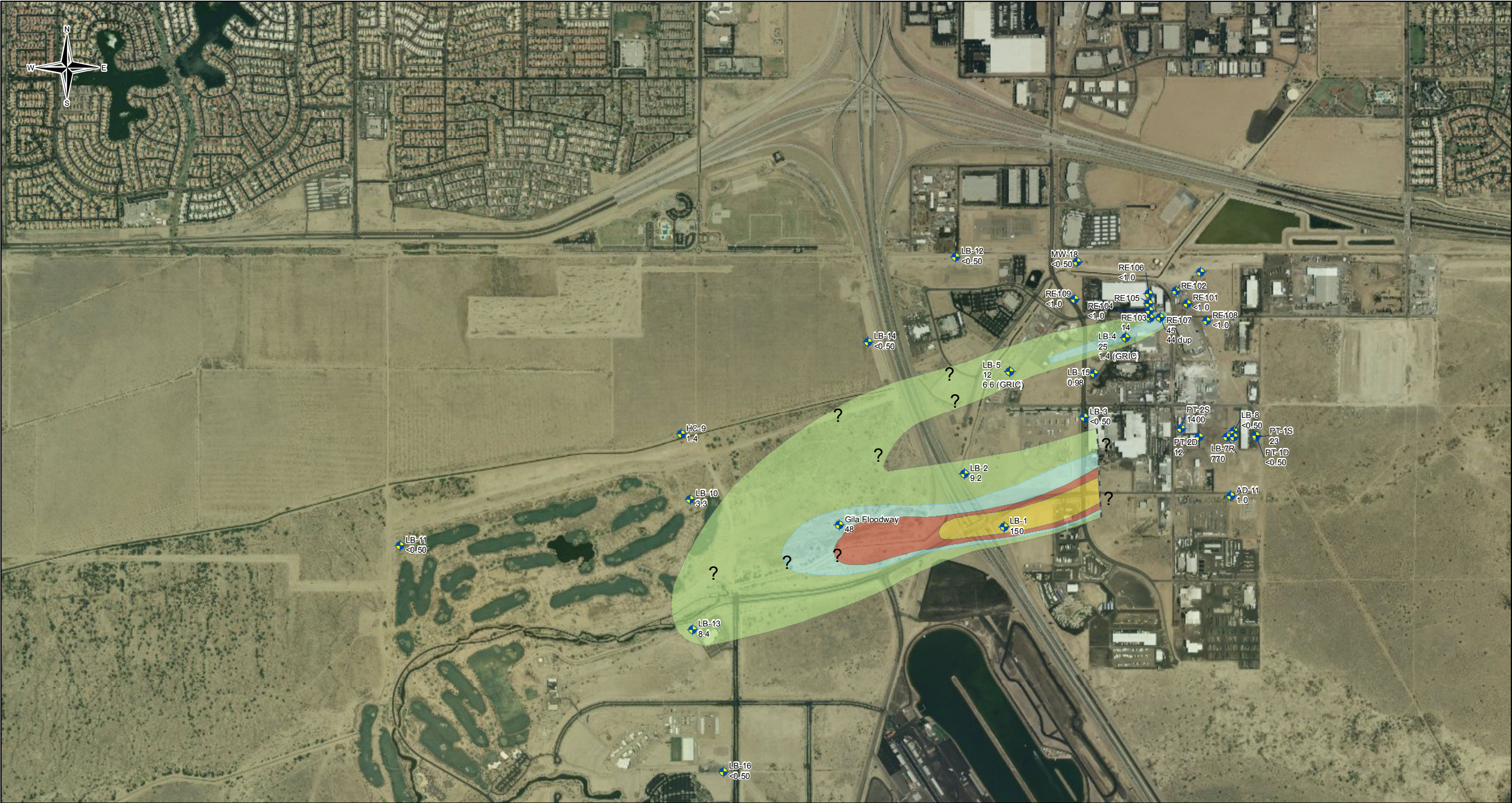


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Figure 12



Explanation

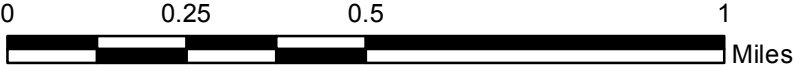
July/August 2010 TCE Concentration (ug/L)

TCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

**TCE Extent in Regional Aquifer
(July - August 2010)**

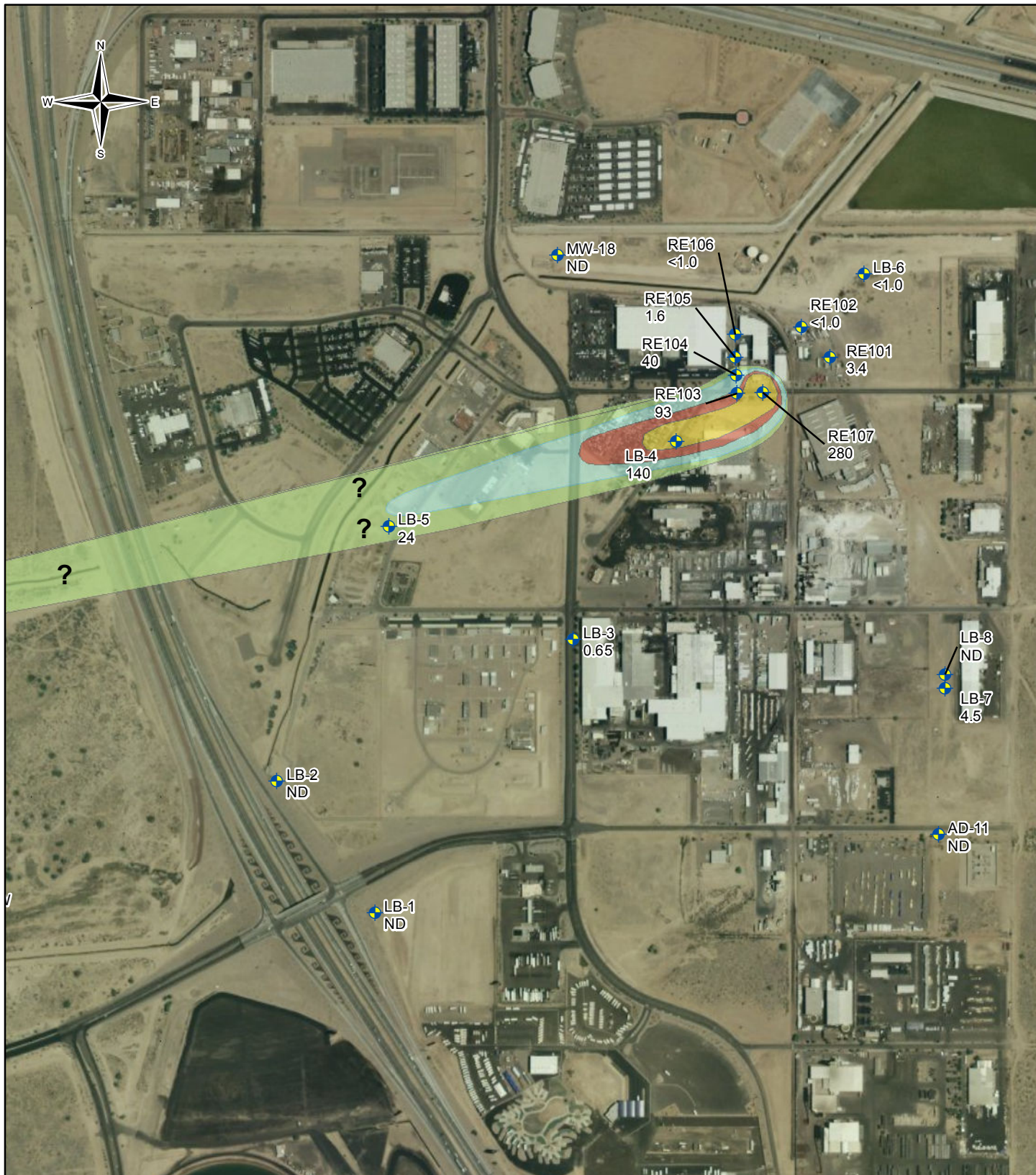


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Figure 13



PCE Concentrations – Lone Butte Industrial Park Area (August 2007)

Explanation

August 2007 PCE Concentration (ug/L)

PCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

0 250 500 1,000 1,500
Feet

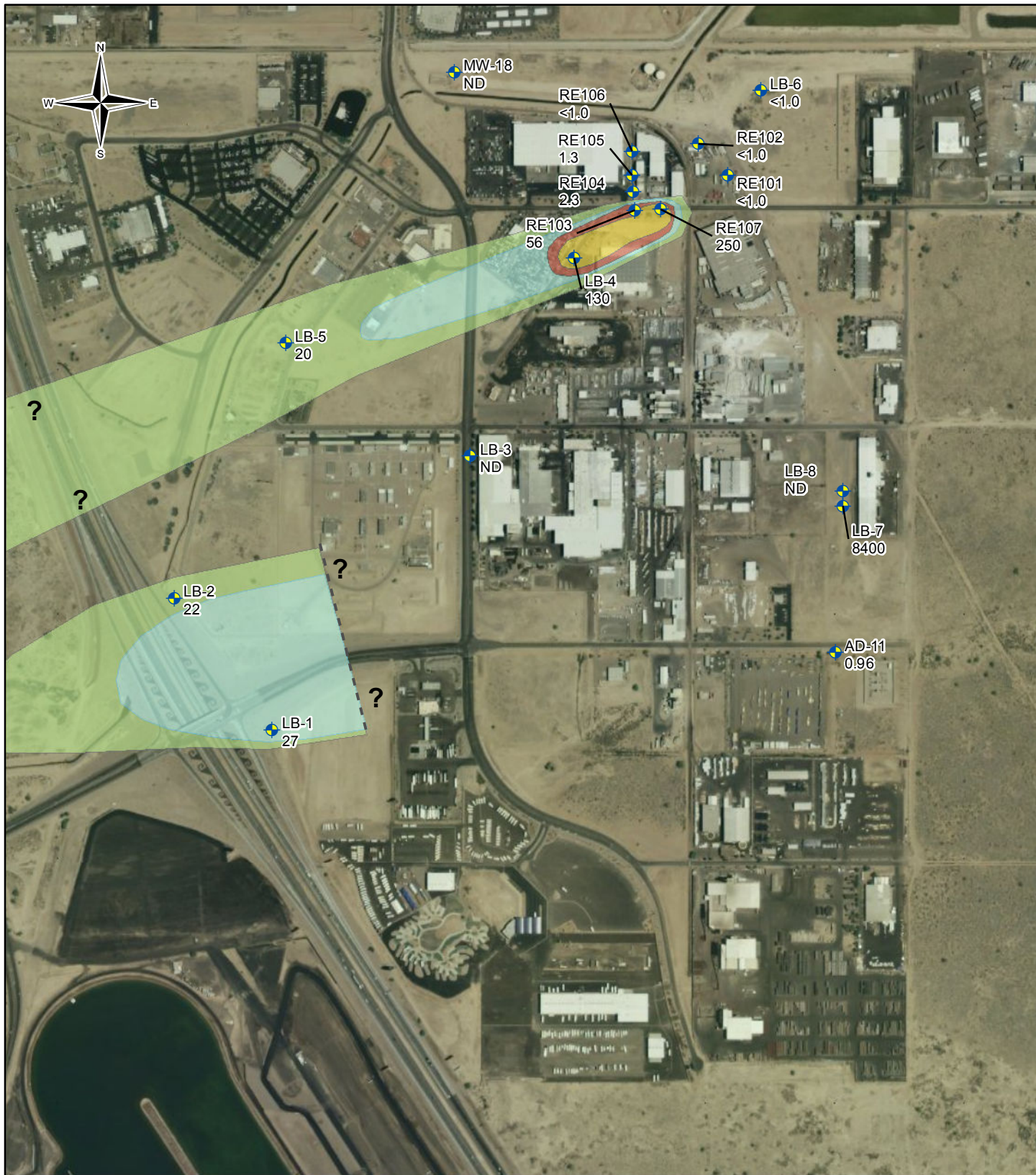
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Figure 14

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TCE Concentration - Lone Butte Industrial Park Area (August 2007)

Explanation

August 2007 TCE Concentration (ug/L)

TCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

0 250 500 1,000 1,500
Feet

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Figure 15

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PCE Concentration – Lone Butte Industrial Park Area (July - August 2010)

Explanation

July/August 2010 PCE Concentration (ug/L)

PCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

0 250 500 1,000 1,500
Feet

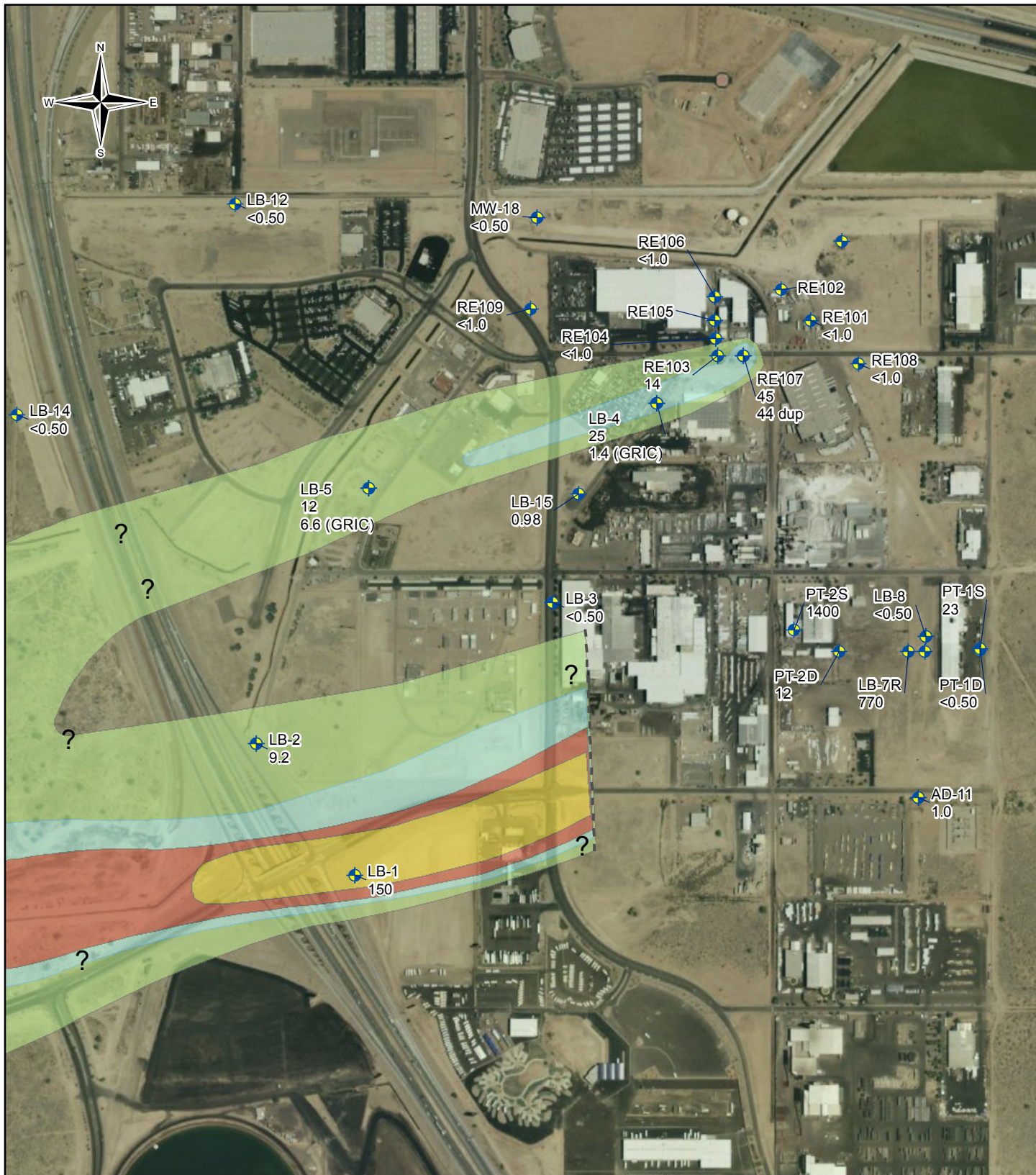
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Figure 16

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TCE Concentration – Lone Butte Industrial Park Area (July - August 2010)

Explanation

July/August 2010 TCE Concentration (ug/L)

TCE Concentration Contours

- >5.0 ug/L
- >25.0 ug/L
- >50 ug/L
- >100 ug/L

World Imagery

0 250 500 1,000 1,500
Feet

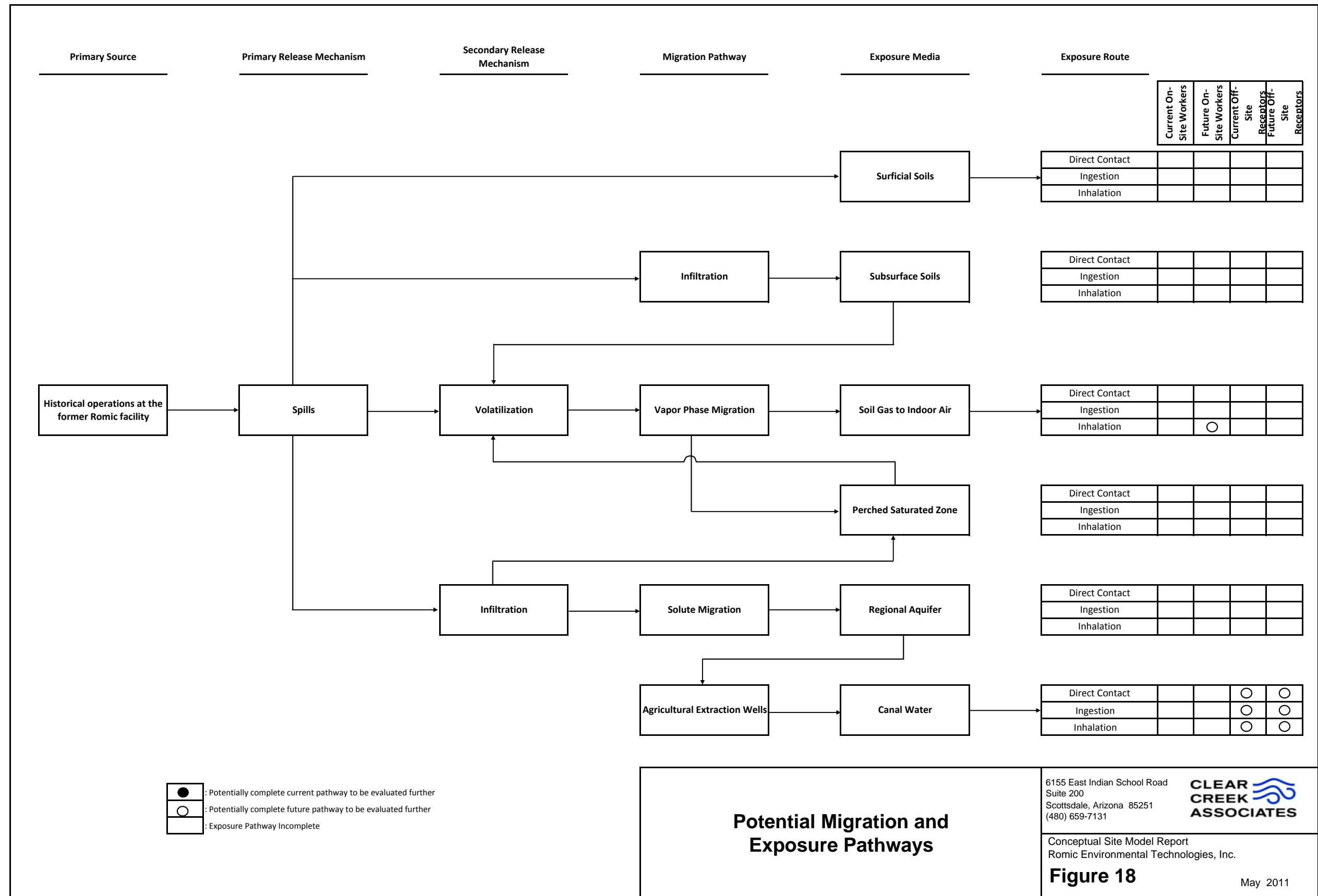
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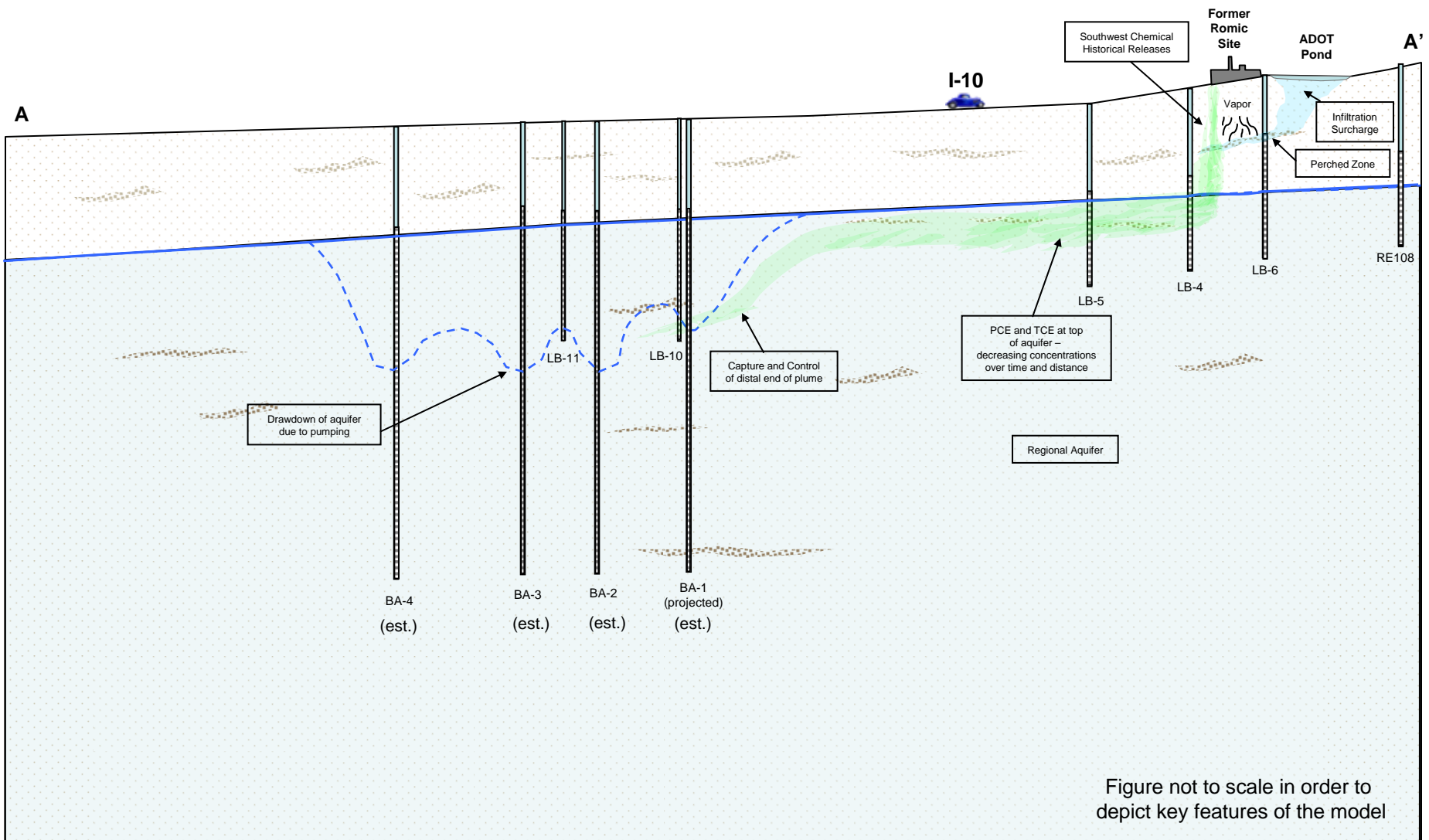
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Figure 17

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0 0.25 0.5
Miles

CONCEPTUAL SITE MODEL Former Romic Environmental Technologies Facility

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Conceptual Site Model Report

Figure 19

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APPENDIX A

SOIL VAPOR EXTRACTION SYSTEM OPERATION DATA

Figure 16
Cumulative VOC Mass Removed
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

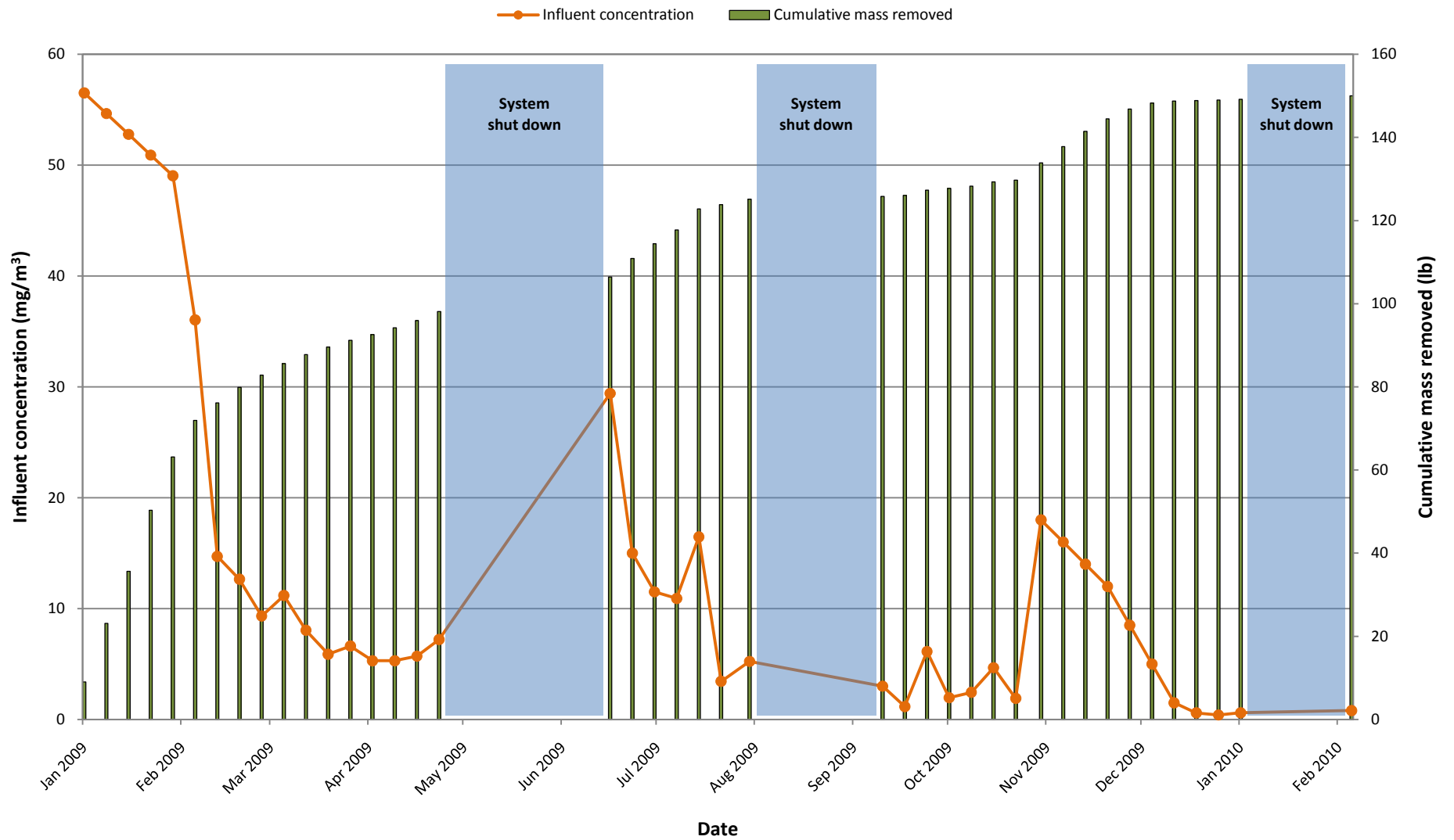


Figure 17
TCE Concentrations in Shallow Wells
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

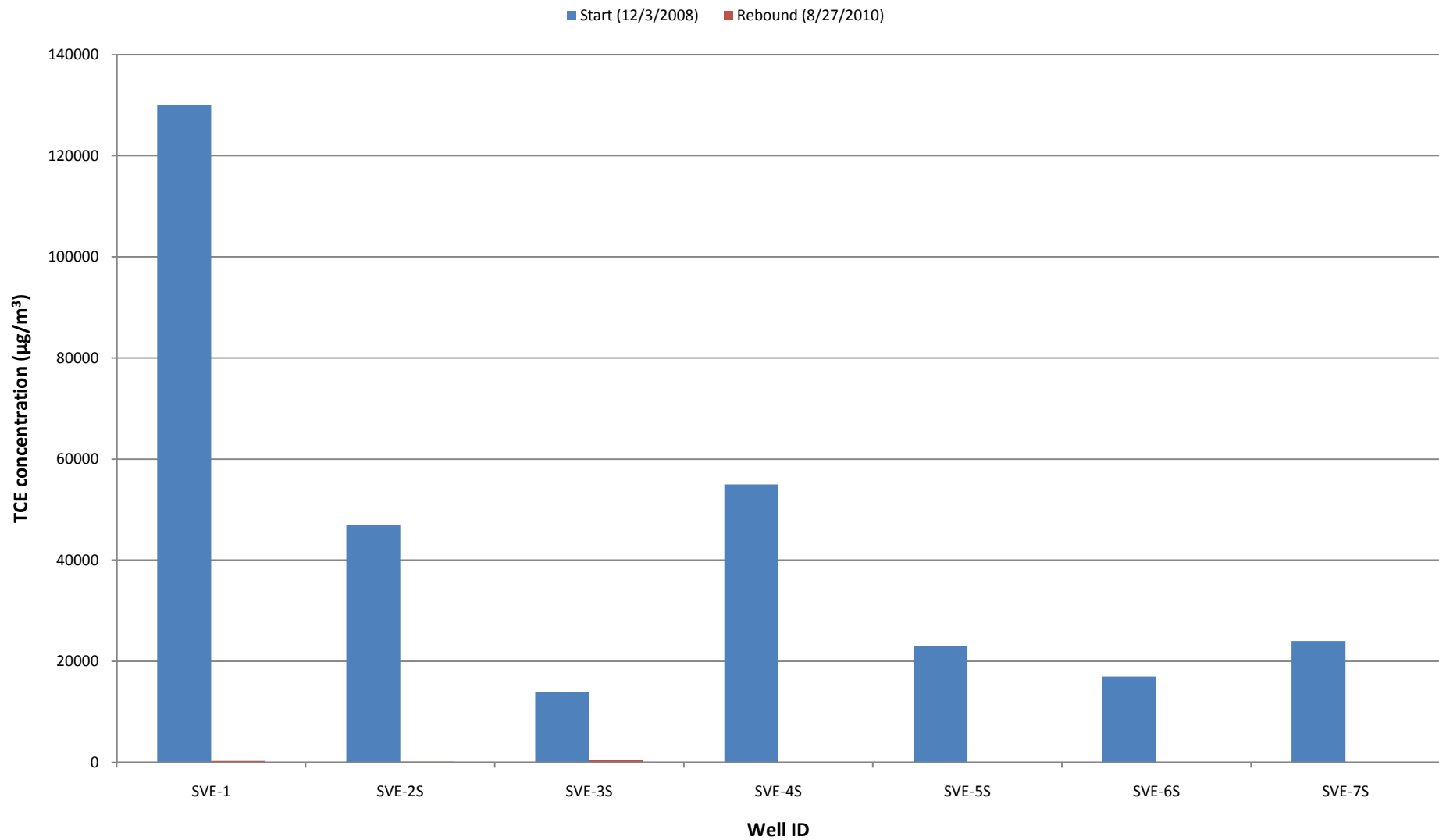


Figure 18
PCE Concentrations in Shallow Wells
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

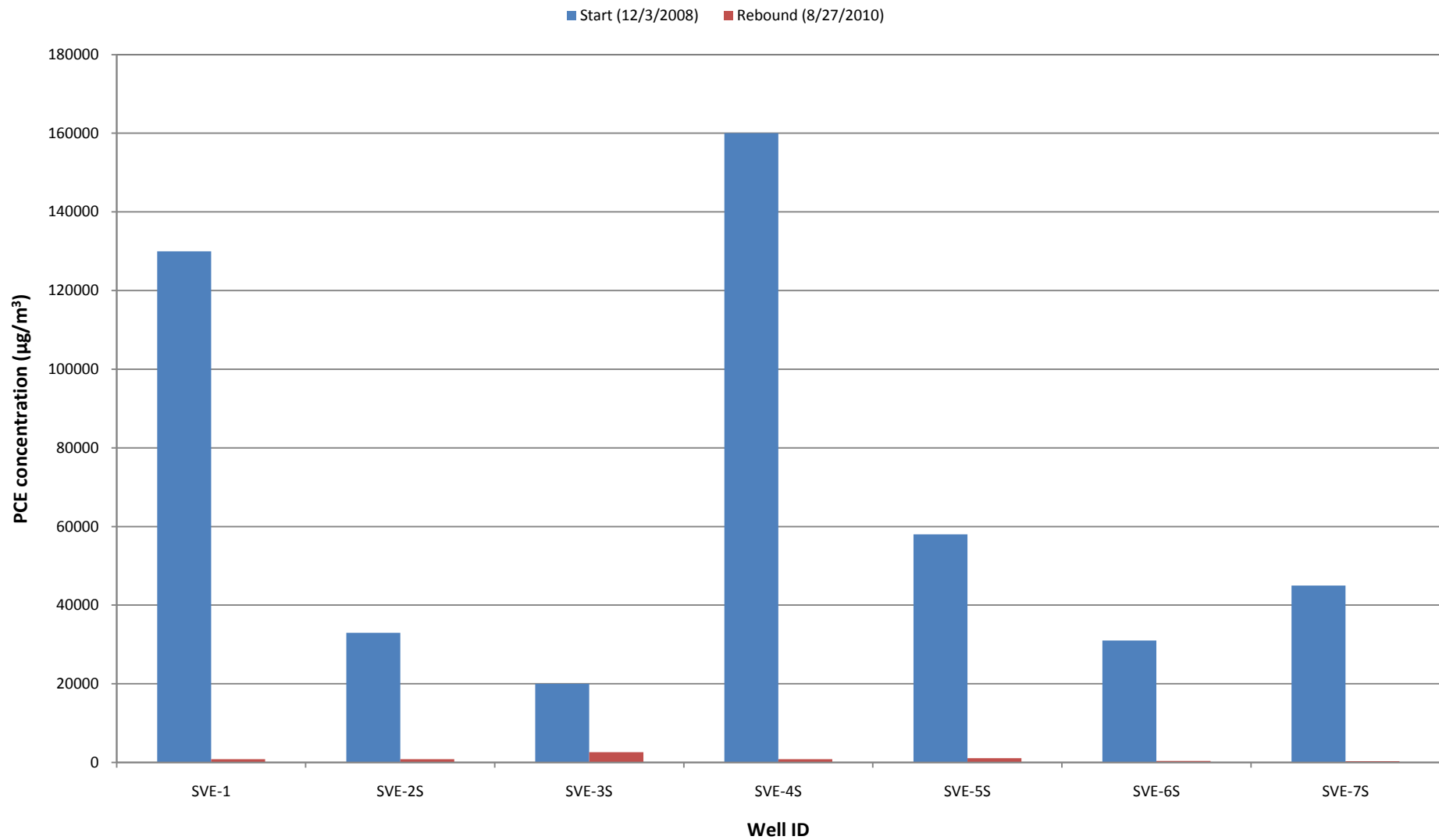


Figure 19
TCE Concentrations in Deep Wells
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

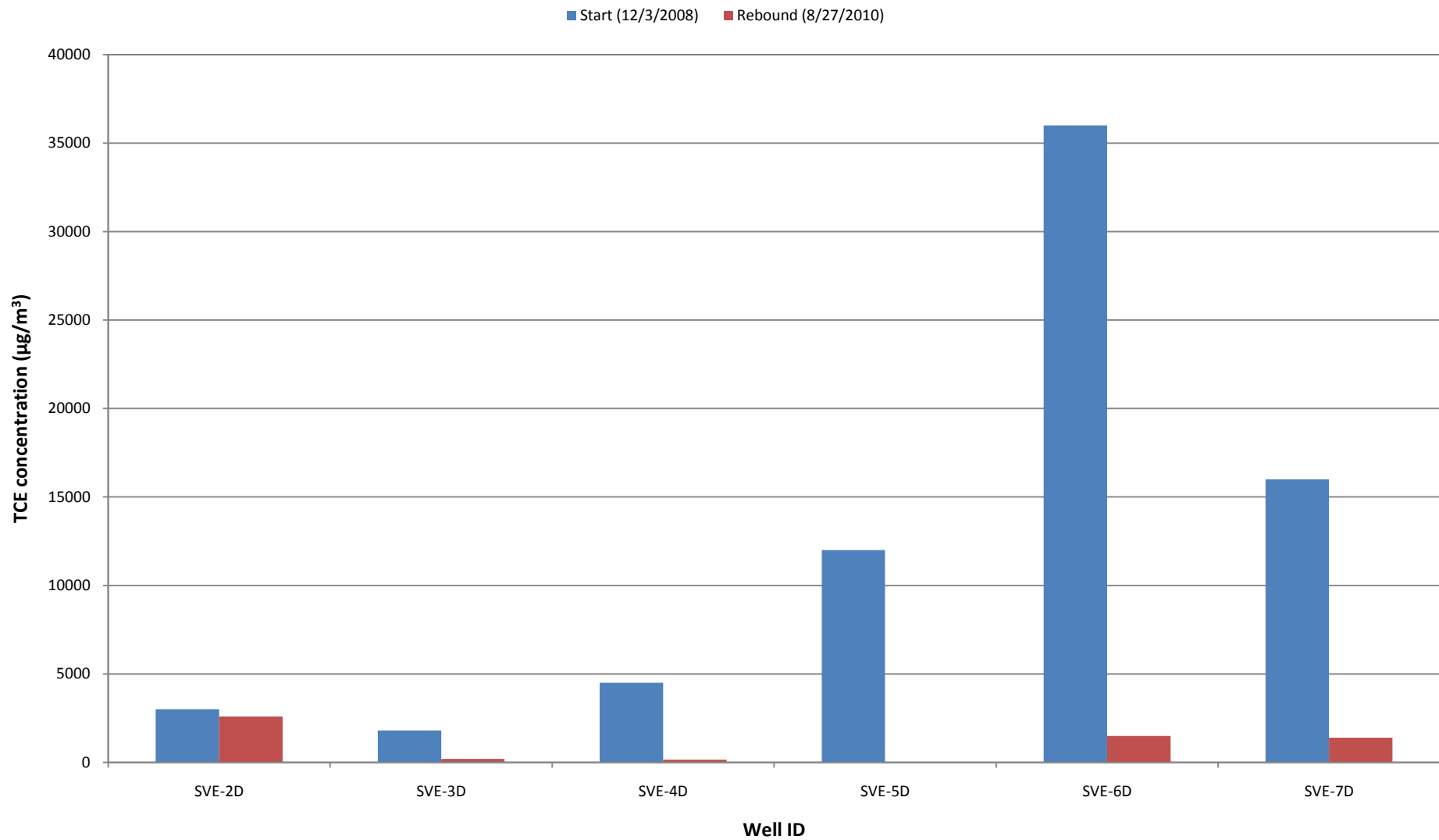


Figure 20
PCE Concentrations in Deep Wells
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

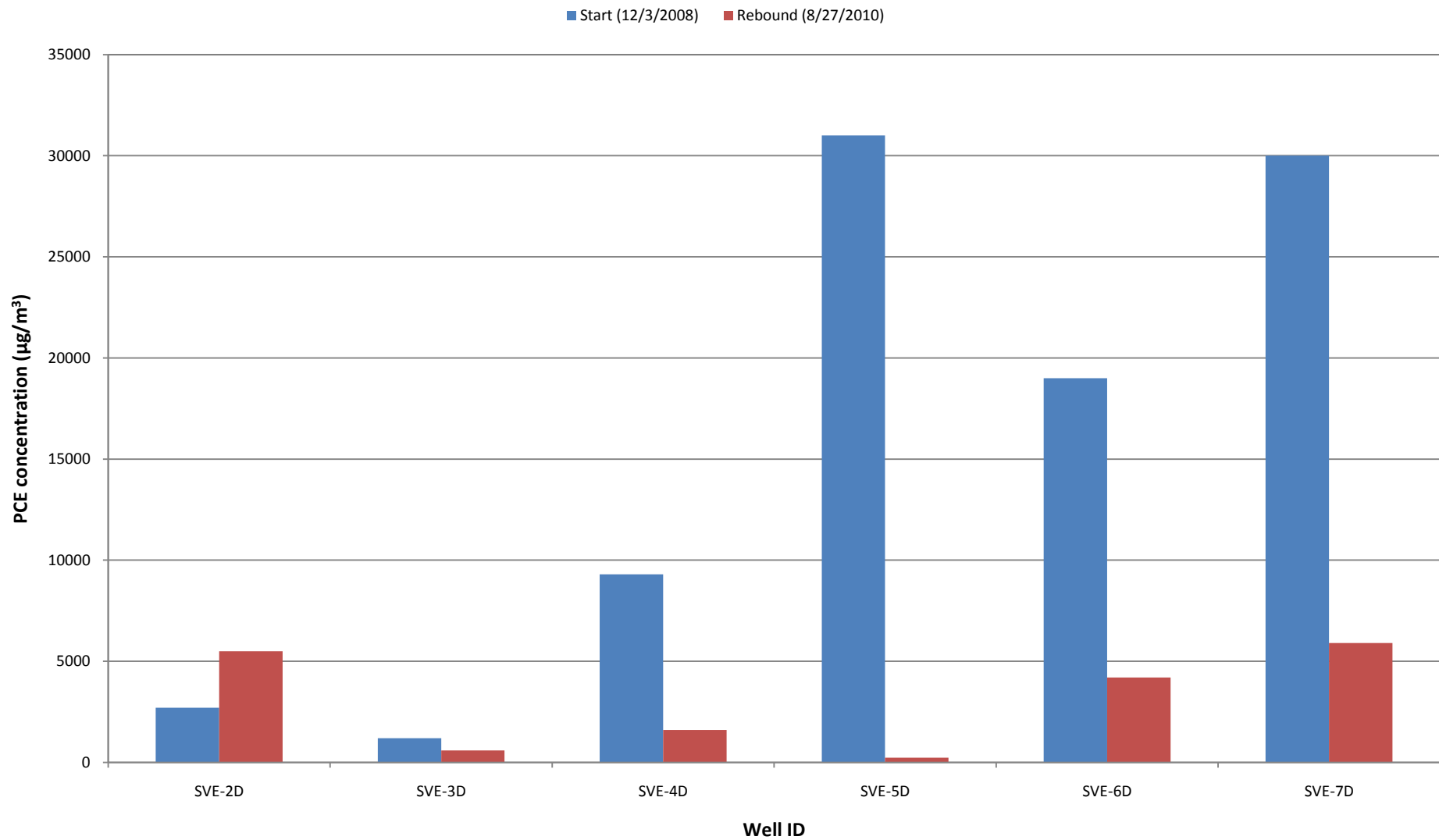


Table 11
Influent and Effluent Concentrations, December 2008 - January 2010
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Date	Influent concentration	Effluent concentration
12/4/2008	65900	1000
2/8/2009	48200	1000
2/19/2009	14700	1800
2/27/2009	12400	1200
3/6/2009	8800	600
3/15/2009	12400	1800
3/21/2009	5900	0
3/28/2009	5900	600
4/1/2009	6500	0
4/9/2009	5300	0
4/16/2009	5300	0
4/26/2009	5900	1200
4/30/2009	4100	1200
6/23/2009	29400	11200
7/3/2009	8800	20600
7/10/2009	13500	20000
7/19/2009	7600	17600
7/21/2009	16500	3500
7/27/2009	5300	12400
8/6/2009	4700	11200
9/17/2009	3000	2100
9/25/2009	900	2200
10/2/2009	7000	1800
10/7/2009	2800	1900
10/16/2009	2400	1800
10/25/2009	5800	2200
10/29/2009	1900	N/A
11/6/2009	18000	6500
11/27/2009	12000	17000
12/16/2009	2500	2900
12/24/2009	800	1000
12/30/2009	400	800
1/5/2010	600	1000

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- N/A = no data available.

Table 12
VOC Concentrations in SVE-1
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Operational 6/3/2009	3/9/2010	Rebound 8/27/2010	
				Original	Field duplicate
1,1-Dichloroethane	1600	<10	<4.4	<4.6	<4.5
1,1-Dichloroethene	7700	<9.8	<4.3	120	190
1,2-Dichloroethane	2700	<10	<4.4	8.9	14
2-Butanone (Methyl Ethyl Ketone)	<420	350	11	3.7	5.8
Acetone	<1300	48	24	38	26
Carbon Disulfide	<440	18	14	15	20
Chloroform	18000	23	<5.3	9.1	14
Ethanol	<1100	19	11	<8.7	12
Freon 113	<1100	<19	<8.3	88	130
m,p-Xylene	<610	30	<4.7	<5	<4.8
o-Xylene	<610	11	<4.7	<5	<4.8
Methylene Chloride	<490	<8.6	<3.8	<4	4.4
Tetrachloroethene	130000	550	120	540	840
Tetrahydrofuran	<420	4600	<3.2	<3.4	<3.3
Toluene	<530	38	<4.1	<4.3	<4.2
Trichloroethene	130000	410	78	200	320

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 13
VOC Concentrations in SVE-2S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008		Operational 6/3/2009		Rebound	
	Original	Field duplicate	Original	Lab duplicate	3/9/2010	8/27/2010
1,1-Dichloroethane	940	1200	<13	<13	<4.4	<4.8
1,1-Dichloroethene	2700	3600	<13	<13	<4.3	<4.8
1,2-Dichloroethane	2600	3300	24	25	<4.4	7.7
1,4-Dioxane	<480	<650	<47	<47	<16	18
2,2,4-Trimethylpentane	<160	<210	<15	<15	<5	6
2-Butanone (Methyl Ethyl Ketone)	<99	<130	430	460	4.6	33
Acetone	<320	<430	130	140	16	270
Carbon Disulfide	<100	<140	<10	<10	<3.4	1200
Chloroform	8500	10000	72	77	<5.3	15
cis-1,2-Dichloroethene	140	<180	<13	<13	<4.3	<4.8
Ethanol	<250	<340	<25	26	<8.1	10
Freon 113	<260	<350	<25	<25	<8.3	13
m,p-Xylene	<140	<200	31	32	<4.7	<5.2
Methylene Chloride	<120	<160	<11	<11	<3.8	10
Tetrachloroethene	33000	41000	1600	1600	140	830
Tetrahydrofuran	<99	<130	5900	6000	<3.2	<3.5
Toluene	<130	<170	41	43	<4.1	<4.5
Trichloroethene	47000	61000	380	400	32	130

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 14
VOC Concentrations in SVE-2D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Rebound		8/27/2010
		3/9/2010 Original	Lab duplicate	
1,1-Dichloroethane	91	37	38	44
1,1-Dichloroethene	170	450	460	510
1,2,4-Trimethylbenzene	13	<8.6	<19	<15
1,2-Dichloroethane	110	48	50	46
2,2,4-Trimethylpentane	21	<8.2	<18	<14
2-Butanone (Methyl Ethyl Ketone)	9.5	<5.1	<12	<8.8
4-Ethyltoluene	9.4	<8.6	<19	<15
4-Methyl-2-pentanone	43	<7.1	<16	<12
Acetone	44	<16	<38	32
Benzene	16	<5.6	<13	<9.5
Carbon Disulfide	22	5.9	<12	30
Carbon Tetrachloride	16	<11	<25	<19
Chloroform	590	140	140	170
cis-1,2-Dichloroethene	16	50	52	53
Ethyl Benzene	9.6	<7.6	<17	<13
Freon 113	<14	180	180	140
Heptane	12	<7.2	<16	<12
Hexane	9.2	<6.1	<14	<10
m,p-Xylene	25	<7.6	<17	<13
o-Xylene	11	<7.6	<17	<13
Methylene Chloride	<6.3	9.5	<14	34
Tetrachloroethene	2700	3500	3400	5500
Toluene	66	<6.6	<15	<11
Trichloroethene	3000	2200	2200	2600

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 15
VOC Concentrations in SVE-3S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	6/3/2009	Operational 9/17/2009		Rebound	
			Original	Lab duplicate	3/9/2010	8/27/2010
1,1,2-Trichloroethane	<66	<27	<93	<93	18	<5.9
1,1-Dichloroethane	140	<20	<69	<69	<4.4	<4.4
1,1-Dichloroethene	1000	<20	<67	<67	140	100
1,2-Dichloroethane	49	<20	<69	<69	76	35
2-Butanone (Methyl Ethyl Ketone)	<36	250	<50	<50	<3.2	18
Acetone	130	56	<160	<160	<10	44
Carbon Disulfide	<38	<15	<53	<53	<3.4	10
Carbon Tetrachloride	81	<31	<110	<110	<6.8	<6.8
Chloroform	280	<24	<83	<83	8.2	8.4
cis-1,2-Dichloroethene	240	<20	<67	<67	4.4	5.8
Ethanol	<92	260	<130	<130	<8.1	16
Freon 11	<68	<28	<96	<96	<6.1	38
Freon 113	<93	<38	<130	<130	31	61
Hexane	100	<17	<60	<60	<3.8	<3.8
m,p-Xylene	61	33	<74	<74	<4.7	<4.7
Tetrachloroethene	20000	8500	<120	<120	1700	2600
Tetrahydrofuran	<36	3000	<50	<50	<3.2	<3.2
Toluene	100	34	<64	<64	<4.1	<4.1
Trichloroethene	14000	130	<91	<91	580	450

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 16
VOC Concentrations in SVE-3D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Operational 9/17/2009	Rebound	
			3/9/2010	8/27/2010
1,1-Dichloroethane	51	<4.7	6.7	<4.5
1,1-Dichloroethene	320	<4.6	520	54
1,2,4-Trimethylbenzene	<6	<5.7	12	<5.5
1,2-Dichloroethane	6.6	<4.7	56	6.8
1,3,5-Trimethylbenzene	<6	<5.7	7.7	<5.5
2-Butanone (Methyl Ethyl Ketone)	65	<3.4	27	15
2-Propanol	16	<11	<15	<11
4-Ethyltoluene	<6	<5.7	19	<5.5
4-Methyl-2-pentanone	<5	5.1	<6.1	<4.6
Acetone	150	<11	33	71
Benzene	13	<3.7	<4.8	<3.6
Carbon Disulfide	24	<3.6	<4.6	7.9
Chloroform	21	<5.7	10	<5.5
Chloromethane	14	<9.6	<12	<9.2
cis-1,2-Dichloroethene	83	<4.6	<5.9	<4.4
Cumene	<6	30	<7.3	<5.5
Cyclohexane	7.7	<4	<5.1	<3.8
Ethanol	48	<8.8	<11	28
Ethyl Benzene	7.3	<5	<6.5	<4.9
Freon 113	11	<8.9	220	17
Heptane	51	<4.8	<6.1	<4.6
Hexane	20	<4.1	<5.3	<3.9
m,p-Xylene	24	<5	<6.5	<4.9
o-Xylene	8.9	<5	<6.5	<4.9
Tetrachloroethene	1200	<7.9	3100	590
Tetrahydrofuran	69	<3.4	<4.4	<3.3
Toluene	55	<4.4	<5.6	<4.2
trans-1,2-Dichloroethene	<4.8	<4.6	<5.9	6.6
Trichloroethene	1800	<6.3	1300	200
Vinyl Chloride	4.2	<3	<3.8	<2.9

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 17
VOC Concentrations in SVE-4S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline				Operational 6/3/2009	Rebound	
	12/3/2008 Original	12/3/2008 Field duplicate	12/5/2008 Replacement*	12/5/2008 Replacement lab duplicate*		3/9/2010	8/27/2010
1,1,2-Trichloroethane	540	<380	95	120	<38	<59	<24
1,1-Dichloroethane	1400	670	190	240	<28	<44	<18
1,1-Dichloroethene	2100	1200	230	290	<27	<43	<18
1,2-Dichlorobenzene	<420	<420	<66	<66	<41	<65	91
1,2-Dichloroethane	6700	3600	1400	1800	<28	<44	<18
2-Butanone (Methyl Ethyl Ketone)	<200	<200	<32	<32	1100	2400	1800
Acetone	<660	<660	<100	<100	120	130	130
Carbon Disulfide	<220	<220	<34	<34	<21	<34	71
Chloroform	5000	2700	880	1100	<34	<53	<22
Ethanol	<520	<520	<82	<82	80	<81	<34
m,p-Xylene	<300	<300	<47	51	100	<47	<19
o-Xylene	<300	<300	<47	<47	35	<47	<19
Tetrachloroethene	160000	77000	20000	24000	750	490	820
Tetrahydrofuran	<200	<200	<32	<32	13000	13000	15000
Toluene	<260	<260	<41	<41	140	<41	<17
Trichloroethene	55000	30000	7800	9800	61	<58	74

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- * = SVE-4S was re-sampled in December 2008 due to presence of water in original sample.
- < = analyte not detected above indicated laboratory reporting limit.

Table 18
VOC Concentrations in SVE-4D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline	Rebound	
	12/3/2008	3/9/2010	8/27/2010
1,1,2-Trichloroethane	120	<59	<25
1,1-Dichloroethane	180	<44	<18
1,1-Dichloroethene	440	<43	<18
1,2-Dichloroethane	2800	<44	<18
2,2,4-Trimethylpentane	<25	630	<21
2-Butanone (Methyl Ethyl Ketone)	58	4400	330
2-Propanol	700	<110	<45
Acetone	2500	160	<43
Benzene	<17	100	<14
Carbon Disulfide	100	<34	110
Chloroform	590	<53	<22
Cyclohexane	36	170	<16
Freon 113	57	<83	<35
Heptane	24	<44	<19
Hexane	160	44	<16
m,p-Xylene	34	80	<20
o-Xylene	<24	47	<20
Methyl tert-butyl ether	<20	150	<16
Tetrachloroethene	9300	2500	1600
Tetrahydrofuran	38	20000	5000
Toluene	140	290	<17
trans-1,2-Dichloroethene	26	<43	<18
Trichloroethene	4500	400	160
Vinyl Chloride	18	<28	<12

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 19
VOC Concentrations in SVE-5S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/3/2008	Operational 6/3/2009	Rebound	
			3/9/2010	8/27/2010
1,1,1-Trichloroethane	<180	<27	<5.8	14
1,1,2-Trichloroethane	540	<27	<5.8	<6.1
1,1-Dichloroethane	1400	<20	<4.3	<4.5
1,1-Dichloroethene	830	<20	<4.2	5.7
1,2-Dichloroethane	190	<20	<4.3	<4.5
2-Butanone (Methyl Ethyl Ketone)	<100	850	6.4	6.2
Acetone	<320	<47	<10	12
Chloroform	1800	<24	<5.2	7.4
cis-1,2-Dichloroethene	2800	<20	<4.2	11
Ethanol	<260	120	<8	<8.4
Freon 113	1600	<38	<8.2	<8.5
m,p-Xylene	<150	66	<4.6	<4.8
o-Xylene	<150	26	<4.6	<4.8
Tetrachloroethene	58000	610	190	1100
Tetrahydrofuran	<100	11000	22	<3.3
Toluene	<130	98	<4	<4.2
Trichloroethene	23000	43	16	96

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 20
VOC Concentrations in SVE-5D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline	Rebound	
	12/3/2008	3/9/2010	8/27/2010
1,1-Dichloroethane	1100	<4.2	<4.4
1,1-Dichloroethene	600	4.4	<4.4
1,2-Dichloroethane	350	<4.2	8.2
2-Butanone (Methyl Ethyl Ketone)	<58	<3.1	3.9
2-Propanol	2100	<10	<11
Acetone	18000	<9.9	<10
Carbon Disulfide	<62	8	8.4
Chloroethane	NA	<2.8	4
Chloroform	1000	<5.1	<5.4
cis-1,2-Dichloroethene	2300	<4.1	<4.4
Freon 11	110	<5.9	<6.2
Freon 113	2800	<8	<8.4
Tetrachloroethene	31000	240	230
Tetrahydrofuran	<58	3.3	<3.2
Trichloroethene	12000	14	17

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- NA = not analyzed.
- < = analyte not detected above indicated laboratory reporting limit.

Table 21
VOC Concentrations in SVE-6S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Operational 6/3/2009		Rebound	
		Original	Field duplicate	3/9/2010	8/27/2010
1,1-Dichloroethane	400	<13	<12	<4.4	<4.7
1,1-Dichloroethene	660	<12	<12	<4.3	11
1,2,4-Trimethylbenzene	1900	440	22	<5.3	<5.7
1,3,5-Trimethylbenzene	690	170	<15	<5.3	<5.7
2,2,4-Trimethylpentane	110	<15	<14	<5	<5.4
2-Butanone (Methyl Ethyl Ketone)	120	430	620	<3.2	6.1
2-Propanol	1600	<31	<30	<11	<11
4-Ethyltoluene	1700	150	17	<5.3	<5.7
Acetone	1600	36	55	<10	36
Benzene	<62	<10	<9.7	<3.4	46
Carbon Disulfide	<60	<9.9	<9.4	<3.4	41
Chloroform	570	<16	<15	<5.3	<5.6
Cumene	120	21	<15	<5.3	<5.7
Cyclohexane	2200	32	41	<3.7	46
Ethanol	2000	36	34	<8.1	<8.7
Ethyl Benzene	1500	54	26	<4.7	<5
Freon 113	<150	<24	<23	<8.3	14
Heptane	1100	19	12	<4.4	<4.7
m,p-Xylene	5700	270	100	<4.7	5.9
o-Xylene	2000	120	34	<4.7	<5
Propylbenzene	360	22	<15	<5.3	<5.7
Styrene	1700	<14	16	<4.6	<4.9
Tetrachloroethene	31000	420	650	42	350
Tetrahydrofuran	<57	5400	7900	<3.2	<3.4
Toluene	4800	94	130	<4.1	<4.4
Trichloroethene	17000	52	59	6.4	28

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 22
VOC Concentrations in SVE-6D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline	Rebound	
	12/4/2008	3/9/2010	8/27/2010
1,1-Dichloroethane	2200	19	36
1,1-Dichloroethene	1800	220	380
Acetone	600	<14	31
Carbon Disulfide	<85	5.5	48
Chloroform	570	19	24
cis-1,2-Dichloroethene	340	23	37
Cyclohexane	<94	<4.9	23
Freon 113	<210	340	100
Methylene Chloride	<94	22	39
Tetrachloroethene	19000	1600	4200
Toluene	3800	<5.4	<9.4
Trichloroethene	36000	1000	1500

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 23
VOC Concentrations in SVE-7S
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Operational 6/3/2009	Rebound	
			3/9/2010	8/27/2010
1,1-Dichloroethane	190	<18	<4.4	<4.8
1,1-Dichloroethene	1300	42	<4.3	5.2
1,2-Dichloroethane	<110	26	<4.4	<4.8
2-Butanone (Methyl Ethyl Ketone)	<82	830	<3.2	6.1
Acetone	<260	48	<10	14
Carbon Disulfide	<86	59	<3.4	5.8
Chloroform	300	<21	<5.3	<5.8
cis-1,2-Dichloroethene	180	<17	<4.3	<4.7
Ethanol	<210	51	<8.1	<9
m,p-Xylene	<120	40	<4.7	<5.2
Tetrachloroethene	45000	1400	54	340
Tetrahydrofuran	<82	9600	<3.2	<3.5
Toluene	110	72	<4.1	<4.5
Trichloroethene	24000	550	12	52

NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

Table 24
VOC Concentrations in SVE-7D
Former Romic Environmental Technologies Corporation Facility
Gila River Indian Community, Arizona

Parameter	Baseline 12/4/2008	Rebound		
		Original	3/9/2010 Field duplicate	8/27/2010
1,1,2-Trichloroethane	<98	21	17	<16
1,1-Dichloroethane	210	<12	<11	<12
1,1-Dichloroethene	1100	150	130	140
1,2-Dichloroethane	120	420	370	280
Carbon Disulfide	61	<9.6	<8.4	57
Chloroform	280	35	28	29
cis-1,2-Dichloroethene	180	<12	<11	<12
Ethanol	<140	<23	74	<22
Tetrachloroethene	30000	4900	4100	5900
Toluene	71	<12	<10	<11
Trichloroethene	16000	1400	1200	1400

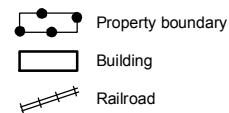
NOTES

- Concentrations expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- Analytes not listed in the table were not detected during any sampling event.
- < = analyte not detected above indicated laboratory reporting limit.

APPENDIX B

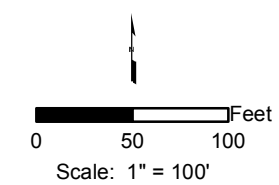
DEEP SOIL GAS AND GROUNDWATER INVESTIGATION DATA

 Groundwater monitor well
 SVE well
 Nested SVE well

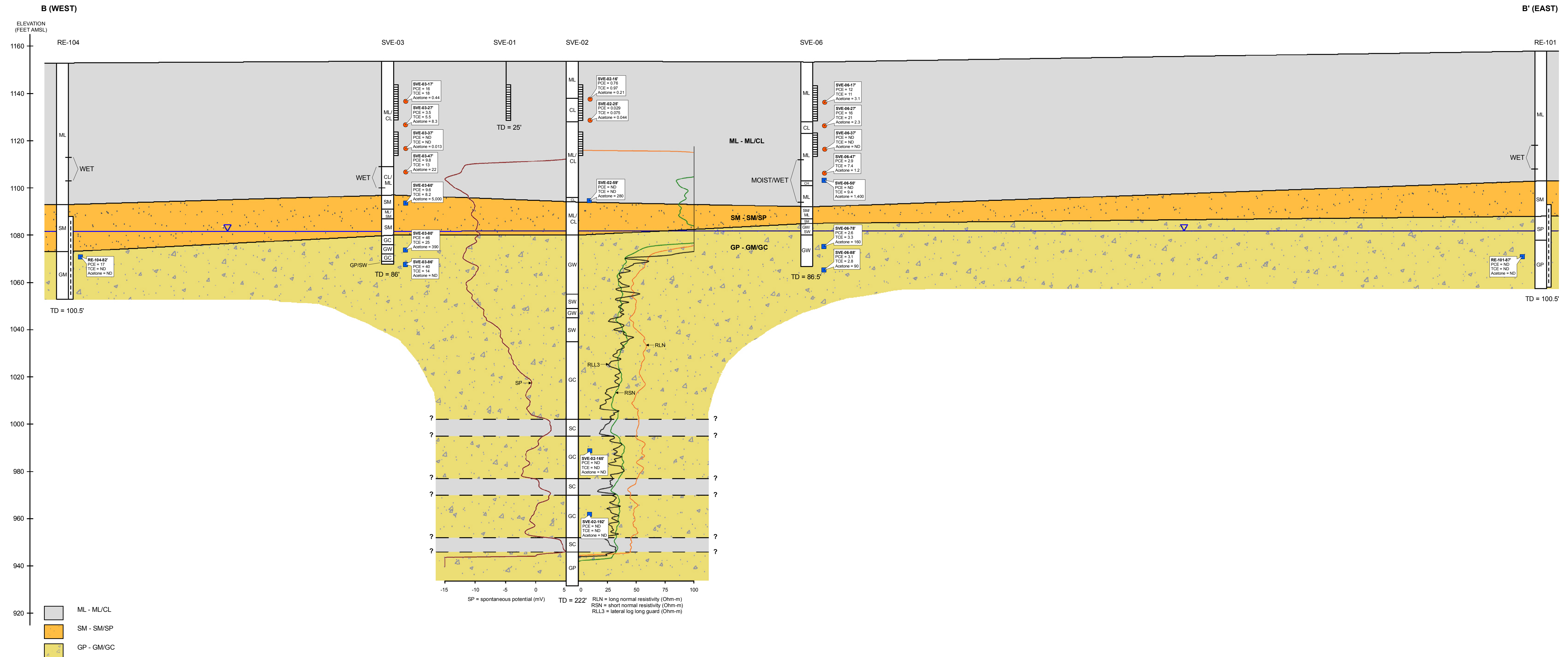


 Cross-section line; see Figures 12 and 13

- Base map derived from Google Earth Pro aerial photograph.



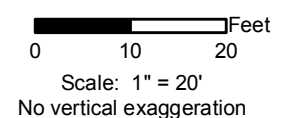
Romic Environmental Technologies
Gila River Indian Community, Arizona



- ## LEGEND

- ## NOTES

- Geophysical logs are based on survey conducted by Pacific Surveys, 11/24/2008.
- Soil gas and groundwater data in SVE borings was collected via depth-specific SimulProbe sampling during November 2008 drilling activities.
- Groundwater data in RE monitor wells was collected by Clear Creek Associates during the November 2008 groundwater monitoring event.



Cross-Section B-B'

Table 2 - Soil Gas Analytical Results (VOCs)
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona

Sample Location	Sample Depth (feet bgs)	Sample Date	QC Sample	Ethanol (µg/L)	1,3-Butadiene (µg/L)	Freon 113 (µg/L)	1,1-Dichloroethene (µg/L)	Acetone (µg/L)	Carbon Disulfide (µg/L)	2-Propanol (µg/L)	Hexane (µg/L)	1,1-Dichloroethane (µg/L)	2-Butanone (Methyl Ethyl Ketone) (µg/L)	cis-1,2-Dichloroethene (µg/L)	Chloroform (µg/L)	Benzene (µg/L)
SVE-02	16	11/19/2008		0.07	<0.019	<0.066	<0.034	0.21	<0.027	6.7	0.57	<0.035	0.054	<0.034	0.24	<0.028
	25	11/19/2008		<0.016	<0.0047	<0.016	0.021	0.044	<0.0066	2.2	0.055	<0.0086	<0.0063	<0.0084	0.028	<0.0068
SVE-03	17	11/3/2008		<0.084	0.079	<0.086	1.2	0.44	0.067	<0.11	0.12	0.23	0.15	0.4	0.4	0.046
	27	11/4/2008		<0.084	<0.025	<0.086	<0.044	8.3	<0.035	21	270 E	<0.045	<0.033	<0.044	<0.055	<0.036
	37	11/4/2008		<0.084	<0.025	<0.086	<0.044	0.013	<0.035	0.022	0.17	<0.045	<0.033	<0.044	<0.055	<0.036
	47	11/4/2008		<0.084	<0.025	<0.086	2.7	22	<0.035	130 E	63	0.26	<0.033	0.54	<0.055	<0.036
SVE-04	17	11/17/2008		<0.065	0.051	0.072	0.6	0.45	0.31	0.028	0.22	0.35	0.16	0.051	1.2	<0.028
	27	11/17/2008		<8	<2.4	<8.2	<4.2	26	<3.3	1,500	110	<4.3	<3.1	<4.2	<5.2	<3.4
	37	11/17/2008		<4	<1.2	<4.1	<2.1	8.8	<1.6	140	770	<2.1	<1.6	<2.1	<2.6	<1.7
	37*	11/17/2008	Duplicate	<2.7	<0.78	<2.7	<1.4	9.5	<1.1	150	740	<1.4	<1	<1.4	<1.7	<1.1
SVE-05	17	11/12/2008		<0.08	<0.024	0.16	0.12	0.24	<0.033	0.3	13	0.23	0.062	0.35	0.24	<0.034
	27	11/12/2008		<0.8	<0.24	<0.82	<0.42	6.8	<0.33	16	78	<0.43	<0.31	0.5	<0.52	<0.34
	37	11/13/2008		<0.54	<0.16	2.7	0.75	6.6	<0.22	76 E	45	1.7	<0.21	4.2	1.4	<0.23
SVE-06	17A	11/10/2008		<0.0077	0.0023	<0.0078	0.0041	1.7 E	0.0074	0.067	0.36	<0.0041	0.04	<0.0041	<0.005	0.018
	17B	11/10/2008		<0.16	<0.047	<0.16	0.5	3.1	<0.066	73 E	0.58	0.24	<0.063	<0.084	0.31	<0.068
	27	11/10/2008		<0.33	<0.097	<0.34	0.84	2.3	<0.14	9	35	0.54	<0.13	<0.17	0.48	<0.14
	27*	11/10/2008	Duplicate	<0.32	<0.092	<0.32	0.9	1.8	<0.13	7.9	32	0.62	<0.12	<0.16	0.52	<0.13
	37	11/10/2008		<0.52	<0.15	<0.53	<0.28	<0.66	<0.22	<0.68	51	<0.28	<0.2	<0.28	<0.34	<0.22
	47	11/10/2008		<0.079	<0.023	<0.08	0.49	1.2	<0.032	8.9	15 E	0.86	<0.031	0.19	0.16	<0.033

- NOTES:**
- 1) Soil gas samples were collected during drilling activities using a SimulProbe sampler.
 - 2) µg/L = micrograms per liter
 - 3) feet bgs = feet below ground surface
 - 4) * denotes duplicate sample
 - 5) Samples SVE-06:17A and 17B denote replicated samples, where sample A may have contained liquid, prompting field personnel to collect sample B. The laboratory reported the result for SVE-06-SG-17A as estimated.
 - 6) < = analyte not detected above laboratory reporting limits shown
 - 7) E = Value exceeded instrument calibration range.

Table 2 - Soil Gas Analytical Results (VOCs)
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona

Sample Location	Sample Depth (feet bgs)	Sample Date	QC Sample	Cyclohexane (µg/L)	1,2-Dichloroethane (µg/L)	Heptane (µg/L)	Trichloroethene (µg/L)	Toluene (µg/L)	1,1,2-Trichloroethane (µg/L)	Tetrachloroethene (µg/L)	Cumene (µg/L)	m,p-Xylene (µg/L)
SVE-02	16	11/19/2008		0.13	0.15	0.08	0.97	<0.032	<0.047	0.76	<0.042	<0.038
	25	11/19/2008		0.02	0.018	<0.0087	0.075	0.012	<0.012	0.029	<0.01	<0.0092
SVE-03	17	11/3/2008		<0.038	0.12	0.068	18	0.044	<0.061	16	<0.055	0.097
	27	11/4/2008		56	<0.045	<0.046	5.5	<0.042	<0.061	3.5	<0.055	<0.049
	37	11/4/2008		0.037	<0.045	<0.046	<0.06	<0.042	<0.061	<0.076	<0.055	<0.049
	47	11/4/2008		18	<0.045	<0.046	13	0.39	<0.061	9.8	<0.055	<0.049
SVE-04	17	11/17/2008		0.038	1.8	0.043	9.5	0.34	0.11	17	<0.042	0.045
	27	11/17/2008		26	<4.3	<4.4	<5.7	4.7	<5.8	8.2	<5.2	5.8
	37	11/17/2008		200	11	<2.2	17	3.3	<2.9	52	<2.6	3.7
	37*	11/17/2008	Duplicate	170	9.5	<1.4	15	2.2	<1.9	42	<1.7	1.8
SVE-05	17	11/12/2008		3	<0.043	<0.044	1.2	0.25	<0.058	1.8	<0.052	<0.046
	27	11/12/2008		18	<0.43	<0.44	1.7	1	<0.58	3.1	<0.52	<0.46
	37	11/13/2008		9.8	0.75	<0.29	20	<0.27	<0.39	52	<0.35	<0.31
SVE-06	17A	11/10/2008		0.16	<0.0041	0.0045	0.089	0.018	<0.0056	0.096	0.024	<0.0044
	17B	11/10/2008		0.1	<0.086	<0.087	11	<0.08	<0.12	12	<0.1	<0.092
	27	11/10/2008		9.2	<0.18	<0.18	19	0.32	<0.24	14	<0.22	<0.19
	27*	11/10/2008	Duplicate	8.4	<0.17	<0.17	21	0.32	<0.23	16	<0.2	<0.18
	37	11/10/2008		9.9	<0.28	<0.28	<0.37	<0.26	<0.38	<0.47	<0.34	<0.3
	47	11/10/2008		3.4	<0.042	<0.043	7.4	0.24	<0.057	2.9	<0.051	<0.045

NOTES:

- 1) Soil gas samples were collected during drilling activities using
- 2) µg/L = micrograms per liter
- 3) feet bgs = feet below ground surface
- 4) * denotes duplicate sample
- 5) Samples SVE-06:17A and 17B denote replicated samples, 'E'
- 6) < = analyte not detected above laboratory reporting limits stated
- 7) E = Value exceeded instrument calibration range.

Table 3 - Soil Analytical Results (VOCs)
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona

Sample Location	Sample Depth (feet bgs)	Sample Date	Acetone (mg/kg)	Tetrachloroethene (mg/kg)	Trichloroethene (mg/kg)	1,1-Dichloroethene (mg/kg)	cis-1,2- Dichloroethene (mg/kg)	1,2-Dichloroethane (mg/kg)
SVE-03	27	11/4/2008	<2.0	<0.039	<0.039	<0.039	<0.039	<0.039
	63	11/5/2008	<2.0	<0.041	<0.041	<0.041	<0.041	<0.041
SVE-04	29	11/17/2008	<2.5	<0.050	<0.050	<0.050	<0.050	<0.050

NOTES:

- 1) Soil samples were collected during drilling activities using a split-spoon sampler.
- 2) mg/kg = milligrams per kilograms
- 3) feet bgs = feet below ground surface
- 4) < = analyte not detected above laboratory reporting limits shown

**Table 4 - Perched Aquifer Groundwater Results (VOCs)
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona**

Sample Location	Sample Depth (feet bgs)	Sample Date	Acetone (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	1,1- Dichloroethane (µg/L)	cis-1,2- Dichloroethene (µg/L)
SVE-02	59	11/20/2008	280	<1.0	<1.0	<1.0	<1.0
SVE-03	60	11/5/2008	5,000	10	8	<1.0	6.9
SVE-04	45	11/18/2008	340	5.4	5.8	<1.0	6.5
SVE-05	45	11/13/2008	240	14	7.3	1.3	4.0
SVE-06	50	11/11/2008	1,400	<5.0	9.4	<5.0	<5.0

NOTES:

- 1) Groundwater samples were collected during drilling activities using a Teflon disposable bailer.
- 2) µg/L = micrograms per liter
- 3) feet bgs = feet below ground surface
- 4) < = analyte not detected above laboratory reporting limits shown

**Table 5 - Regional Aquifer Groundwater Results (VOCs)
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona**

Sample Location	Sample Depth (feet bgs)	Sample Date	QC Sample	Acetone (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	1,1-Dichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	1,1,2-Trichloroethane- 1,2,2-Trifluoroethane (µg/L)
SVE-02	165	11/26/2008		<50	<1.0	<1.0	<1.0	<1.0	<1.0
	165*	11/26/2008	Duplicate	<50	<1.0	<1.0	<1.0	<1.0	<1.0
	192	11/25/2008		<50	<1.0	<1.0	<1.0	<1.0	<1.0
SVE-03	80	11/5/2008		390	46	25	6.2	2.0	<1.0
	86	11/6/2008		<50	34	13	2.3	1.9	<1.0
	86*	11/6/2008	Duplicate	<50	40	14	3.2	2.2	2.2
SVE-04	81	11/18/2008		110	1.4	1.3	<1.0	<1.0	1.3
	88	11/18/2008		<50	1.0	1.1	<1.0	<1.0	<1.0
SVE-05	78	11/14/2008		<50	5.6	<1.0	<1.0	<1.0	<1.0
	87	11/14/2008		<50	<1.0	<1.0	<1.0	<1.0	<1.0
SVE-06	78	11/11/2008		160	2.6	3.3	<1.0	<1.0	<1.0
	88	11/11/2008		90	3.1	2.8	<1.0	<1.0	<1.0

NOTES:

- 1) Groundwater samples were collected during drilling activities using a SimulProbe sampler.
- 2) µg/L = micrograms per liter
- 3) feet bgs = feet below ground surface
- 4) * denotes duplicate sample
- 5) < = analyte not detected above laboratory reporting limits shown

Table 6 - SVE-04 RCRA Closure Groundwater Sampling Results
Former Romic Environmental Technologies Corp. Facility
Chandler, Arizona

Sample Location	Sample Depth (feet bgs)	Sample Date	Arsenic (µg/L)	Barium (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Lead (µg/L)	Selenium (µg/L)	Silver (µg/L)	Mercury (µg/L)	pH
SVE-04	81	11/18/2008	230	6,600	20	910	160	33	<10	0.34	8.2
EPA MCL			10	2,000	5	100	NA	50	NA	2	NA
EPA PRG			0.045 ca	2600 nc	18 nc	110 nc	NA	180	180	11 nc	NA

NOTES:

- 1) Groundwater sample was collected during drilling activities using a SimulProbe sampler.
- 2) µg/L = micrograms per liter
- 3) feet bgs = feet below ground surface
- 4) < = analyte not detected above laboratory reporting limits shown
- 5) No semivolatile organic compounds were detected above laboratory reporting limits.
- 6) Results are total, not dissolved concentrations
- 7) EPA MCL = Environmental Protection Agency Maximum Contaminant Level
- 8) EPA PRG = Environmental Protection Agency Preliminary Remediation Goals
- 9) NA = no standard exists
- 10) nc = noncancer PRG
- 11) ca = cancer PRG
- 12) PRG for chromium is the standard for chromium VI because there is no PRG for total chromium listed

APPENDIX C

DRILLERS LOGS, LONE BUTTE SUPPLY WELLS A-1 AND A-2

Love Butte D/w Wells

Pima, Chandler Industrial Park

A-1

T2S R4E 5aaa

INDUSTRIAL.....ACTIVE

Well Station	Well Name	Well #
--------------	-----------	--------

2S, 4E 5aaa	PIMA,CHNDLER IND PK	A-1
-------------	---------------------	-----

Source of Data	Flow Capacity (gal/min)	Year of Measure	Depth to Water (feet)
PERRY P	1500	9/68	98
PERRY P		12/68	96
USGS		12/68	100
USGS		12/75	119
USGS		2/85	118

Print Date

11/15/94

Transmissivity Calculations by
Paul Manera Inc. 1993

Well Location

2S, 4E 5aaa

Altitude (MSL/ft): 1159 Date 1968

Total Depth (ft): 902

Perforation Total (ft): 210

Discharge (GPM): 1500

Depth to Water Level (ft): 98

Pumping Level (ft):

Depth to Bedrock (ft):

Thick of MSCU (ft): 320

Water Table Drawdown (ft):

Specific Capacity (GPM/FT/DD):

Transmissivity (GPD/ft):

Thickness Saturated Aquifer (ft):

Permeability:

Bedrock Altitude (MSL/ft):

Saturated Bedrock Encountered (ft):

Thickness No Bedrock Encountered (ft):

Calculated Transmissivity (GPD/ft):

3/16/51

Before completing, please read instructions on reverse side.

DATE REC'D _____

NOTE: WATER SYSTEM MUST COMPLETE ALL BLANKS INSIDE THIS BOX

NOTE: WATER SYSTEM MUST COMPLETE ALL BLANKS INSIDE THIS BOX														
PWS ID NO.			LAB NAME AND ADDRESS			LAB ID NO.		SAMPLE DATE						
✓	4	1	6	7	0	Engineers Testing Laboratories, Inc. 3737 East Broadway Road P.O. Box 29032 Phoenix, Arizona 85038 Laboratory Director: Robert Bentley			Mo.	Day	Yr.			
✓	4	1	6	7	0				0	0	0	1	0	0
1-7									42-46					
WATER SYSTEM NAME						SAMPLING POINT—WELL NO. OR EXACT LOCATION				SAMPLE				
PIMA CHANDLER INDUSTRIAL PARK 0000345						PARK OFFICE				(FAUCET)				
MAILING NAME AND ADDRESS						SAMPLE APPEARANCE		WATER SUPPLY SOURCE						
LONE BUTTE INDUSTRIAL DEVELOPMENT CORP.						✓	Clear		✓	Well				
P.O. Box 5000							Turbid			Surface				
CHANDLER, ARIZ. 85224							Other (comment)							
SAMPLER'S COMMENTS OR INSTRUCTIONS								SAMPLE TYPE CODES						
								C - Check Sample						
								D - Regular Distribution Sample						
						P - Plant Tap Sample								
						R - Raw Water Sample								
						S - Special Sample								

[illegible]

COMMENTS

17 20
Robert H. Wood

22 22

Pima-Chandler Industrial Park Well #1

2

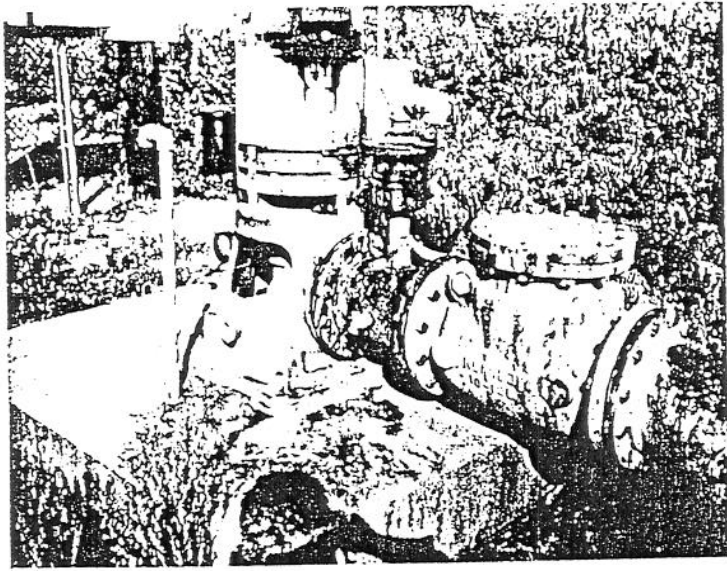


PHOTO 1 taken October 27, 1977. A handle is missing at the hose bibb.

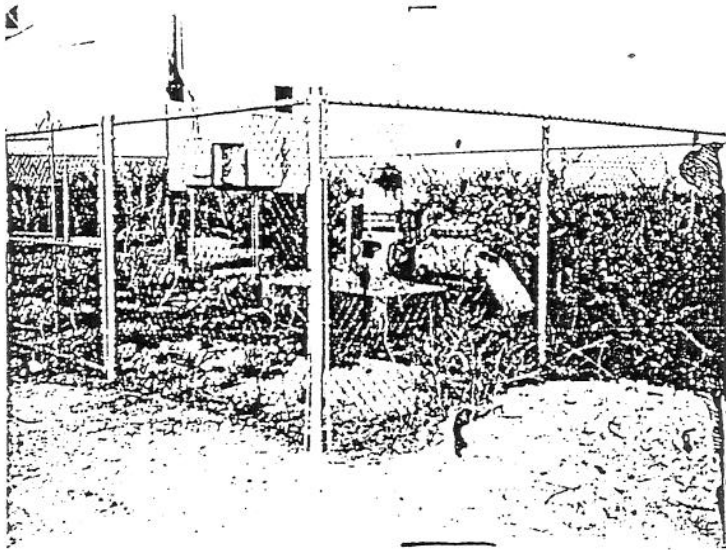


PHOTO 2 taken October 27, 1977. Notice the excessive weed and plant growth in and around the compound.

sak

BERT E. PERRY

WELL DRILLING CONTRACTOR

5338 E. APACHE TRAIL

MESA, ARIZONA

PHONE 985-2603

LONE BUTTE
WELL #,
(2-4) ABCA
LICENSE 23256

Sept. 8, 1968

Lone Butte Well No. 1

PIMA CHANDLER
INDUSTRIAL WELLS

0	- 1	Top Soil	
1	- 10	Red Clay	
10	- 31	Red Clay trace of Gravel	
31	- 40	Sandy Clay	Water table 31'
40	- 54	Calachie	
54	- 66	Fine sand	
66	- 77	Yellow Clay	
77	- 117	Sand & gravel Boulders,	Cemented ribs
117	- 135	Boulders & gravel	
135	- 154	Clean gravel & boulders	
154	- 176	Clay & gravel	
176	- 182	Broken rock running clay	
182	- 262	Hard brown clay conglomerate, layers cemented gravel	T.S.S. PPM - 2,768
262	- 293	Clay & gravel	T.S.S. PPM 2,182
293	- 310	Sticky clay with thin sand & gravel streaks	T.S.S. PPM 1,226
310	- 352	Sticky clay trace gravel	T.S.S. PPM - 1,534
352	- 361	Layers sand & gravel & sticky clay	T.S.S. PPM - 1,290
362	- 403	Sticky clay	
403	- 410	Sticky clay & sand streaks	
410	- 415	Sticky clay	
415	- 500	Red clay	
500	- 575	Red Clay	
575	- 590	Red clay trace gravel	
590	- 679	Red Clay	627 a little water estimate 5Gpm 8gr water
679	- 682	Hard shell	
682	- 700	Clay and sand layers	T.S.S. PPM - 493.6
700	- 738	Cemented gravel (broken granite)	
738	- 767	Sand & gravel; broken rockset with small amount of clay thin layers soft cemented shells	T.S.S. PPM - 795.5
767	- 772	Sticky brown clay	
772	- 794	Clay & gravel	
794	- 805	Clean sand & gravel	T.TAL SOLUBLE SALTS - PPM - 598
805	- 815	Sticky clay layers & gravel layers	
815	- 835	Sticky clay layers with layers cemented gravel	
835	- 852	Cemented gravel	
852	- 862	Sand & gravel compacted, slightly cemented (caving)	
862	- 869	Clean sand	
869	- 885	Cemented gravel	
885	- 889	Sand gravel & soft clay	
889	- 892	Cemented gravel	
892	- 902	Hard clay & gravel	

Casing set at 902

Perforated from 682' to 892'

Pima, Chandler Industrial Park
A-2
T2S R4E 4bba

Well #2

INDUSTRIAL.....ACTIVE

PWS #0400345

Well Station	Well Name	Well #
2S, 4E 4bba	PIMA,CHNDLER IND PK	A-2

Source of Data	Flow Capacity (gal/min)	Year of Measure	Depth to Water (feet)
PERRY P		1968	
USGS		12/68	100
USGS		12/75	94
USGS		2/85	108

Print Date
11/15/94

Transmissivity Calculations by
Paul Manera Inc. 1993

Well Location

2S, 4E 4bba

Altitude (MSL/ft): 1160 Date 1968

Total Depth (ft): 919

Perforation Total (ft): 217

Discharge (GPM):

Depth to Water Level (ft):

Pumping Level (ft):

Depth to Bedrock (ft):

Thick of MSCU (ft): 400

Water Table Drawdown (ft):

Specific Capacity (GPM/FT/DD):

Transmissivity (GPD/ft):

Thickness Saturated Aquifer (ft): 419

Permeability:

Bedrock Altitude (MSL/ft):

Saturated Bedrock Encountered (ft):

Thickness No Bedrock Encountered (ft):

Calculated Transmissivity (GPD/ft):

BERT E. PERRY

WELL DRILLING CONTRACTOR

5338 E. APACHE TRAIL
MESA, ARIZONA

PHONE 985-2603

LONE BUTTE
WELL #2

LICENSE 23256

December 17, 1968

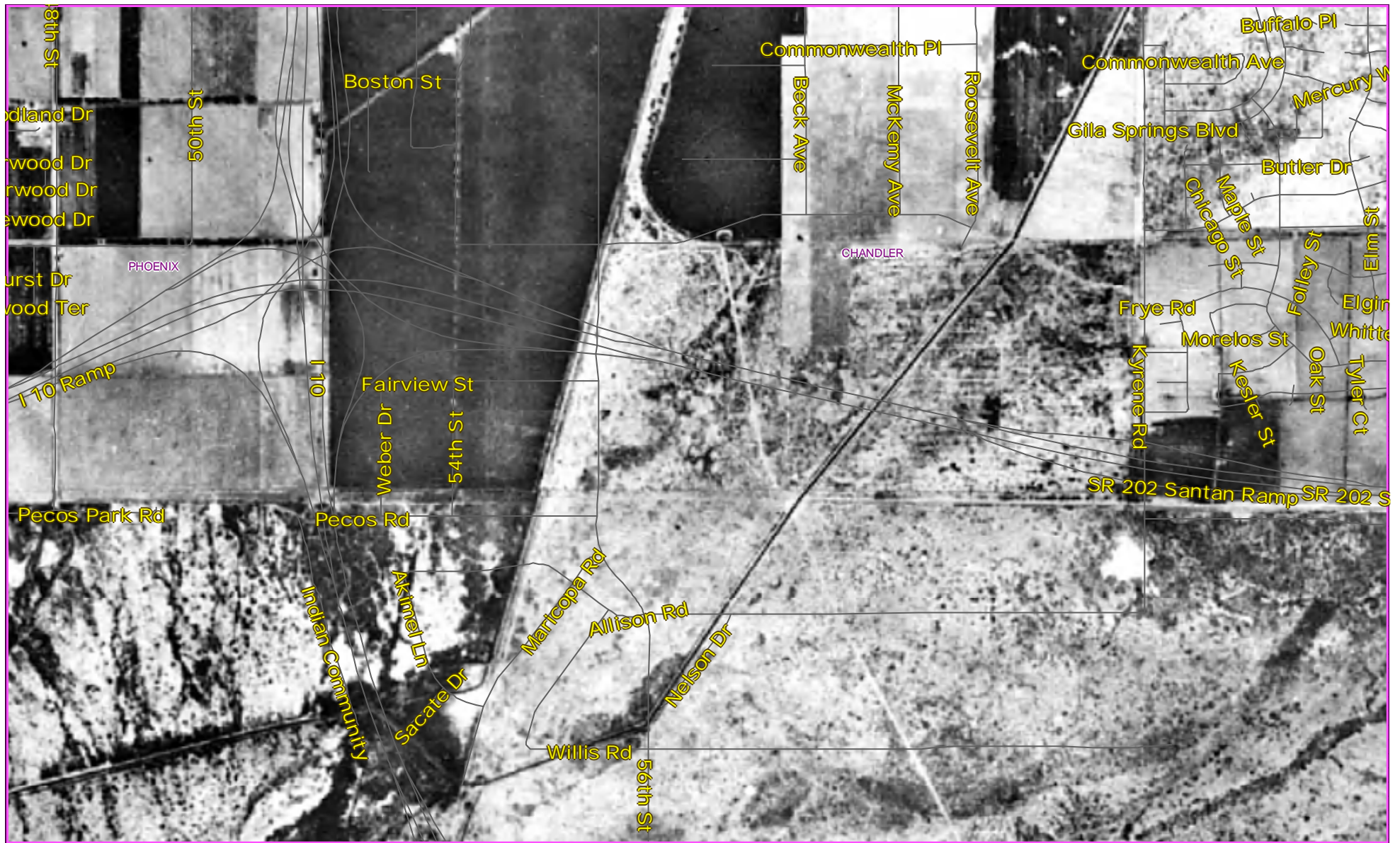
Well no 2 log
Lone Butte

Location - N.W. COR - 4-T2S-R4E
SOUTH OF WILLIAMS FIELD RD 1. mi
EAST OF OLD MARICOPA RD 1/2 mi.

0	- 3	Top soil
3	- 46	Calechie & Red Clay
46	- 60	Red Clay
60	- 72	Sandy Gravel
72	- 113	Clay Gravel & Boulders
113	- 188	Clay, sand & Gravel
188	- 267	Hard Clay Congömerate
267	- 290	Clay & Gravel
290	- 340	Clay
340	- 356	Hard Brown Clay & Gravel
356	- 430	Sticky Hard Brown Clay. Trace of Gravel
430	- 458	Sticky Red Clay
458	- 460	Hard Sandstone Shell
460	- 470	Silty Red Clay
470	- 598	Sticky Red Clay
598	- 601	Hard Shell
601	- 658	Sticky Red Clay & Red Shale. Thin layers Hard Shell
658	- 690	Dark Brown Silty Clay
690	- 693	Clay & Gravel. Water.
693	- 725	Clay, sand & Gravel
725	- 737	Lightly cemented Sand & Gravel
737	- 778	Clay Broken Rock Gravel
778	- 810	Clay & broken quite coarse Rock. A litter clearner.
810	- 840	Clay, sand & Gravel. More Clay & sand.
840	- 919	Clay, Sand & Gravel. Lightly cemented.
20"	casing	49' 10" cemented to surface.
16"	casing	400' 9" cemented bottom 20' feet.
12"	casing	set 390' 2" to 919'
12"	perforated	690 to 907 6/ft. by 3 Well swabbed 24 hours. 95' of sand pulled in.

APPENDIX D

HISTORIC AIR PHOTOGRAPHS



Maricopa County Flood Control District Aerial Photo Circa 1932

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

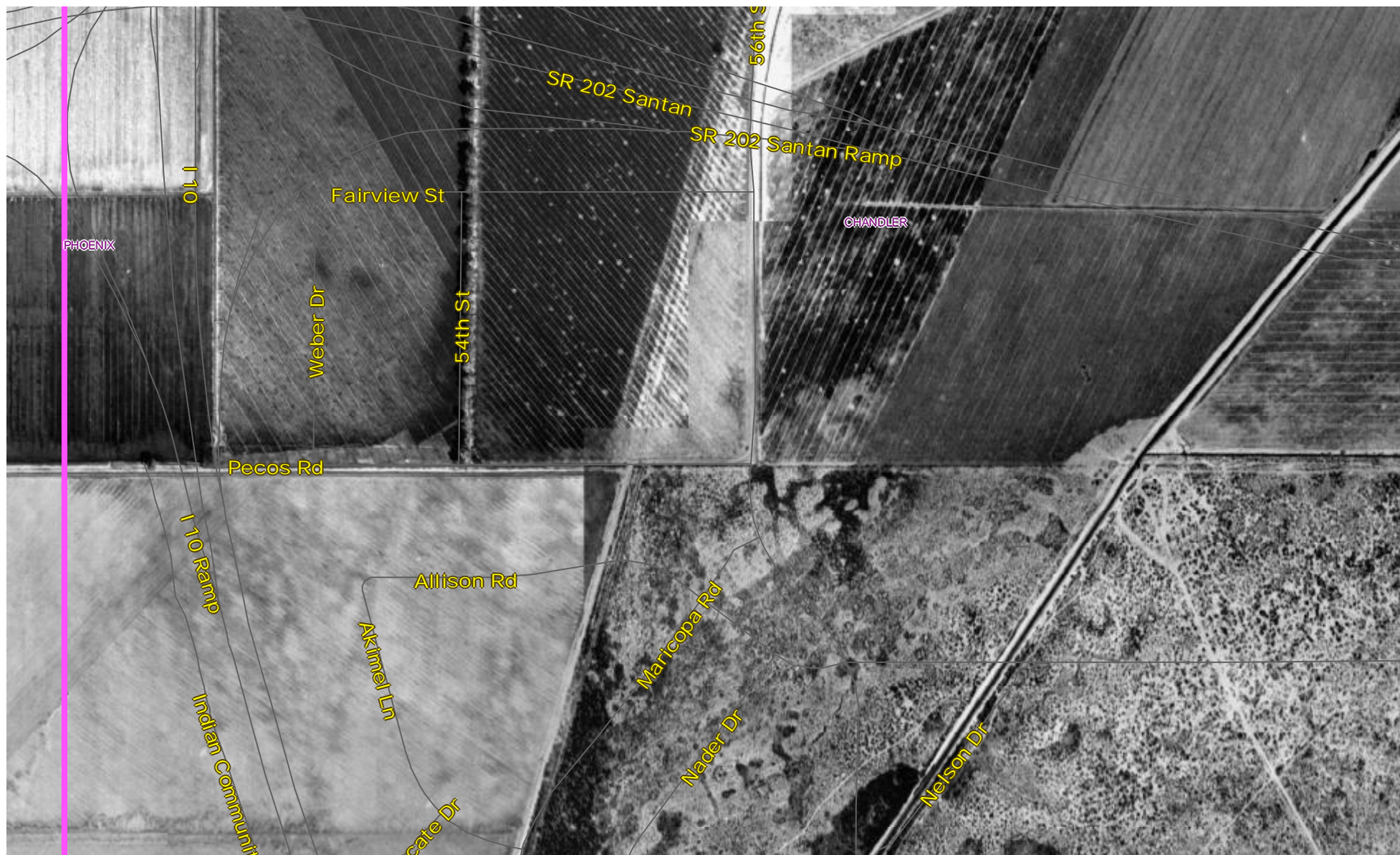
**CLEAR
CREEK
ASSOCIATES**

Conceptual Site Model Report
Former Romic Environmental Technologies Facility

APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 1949

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

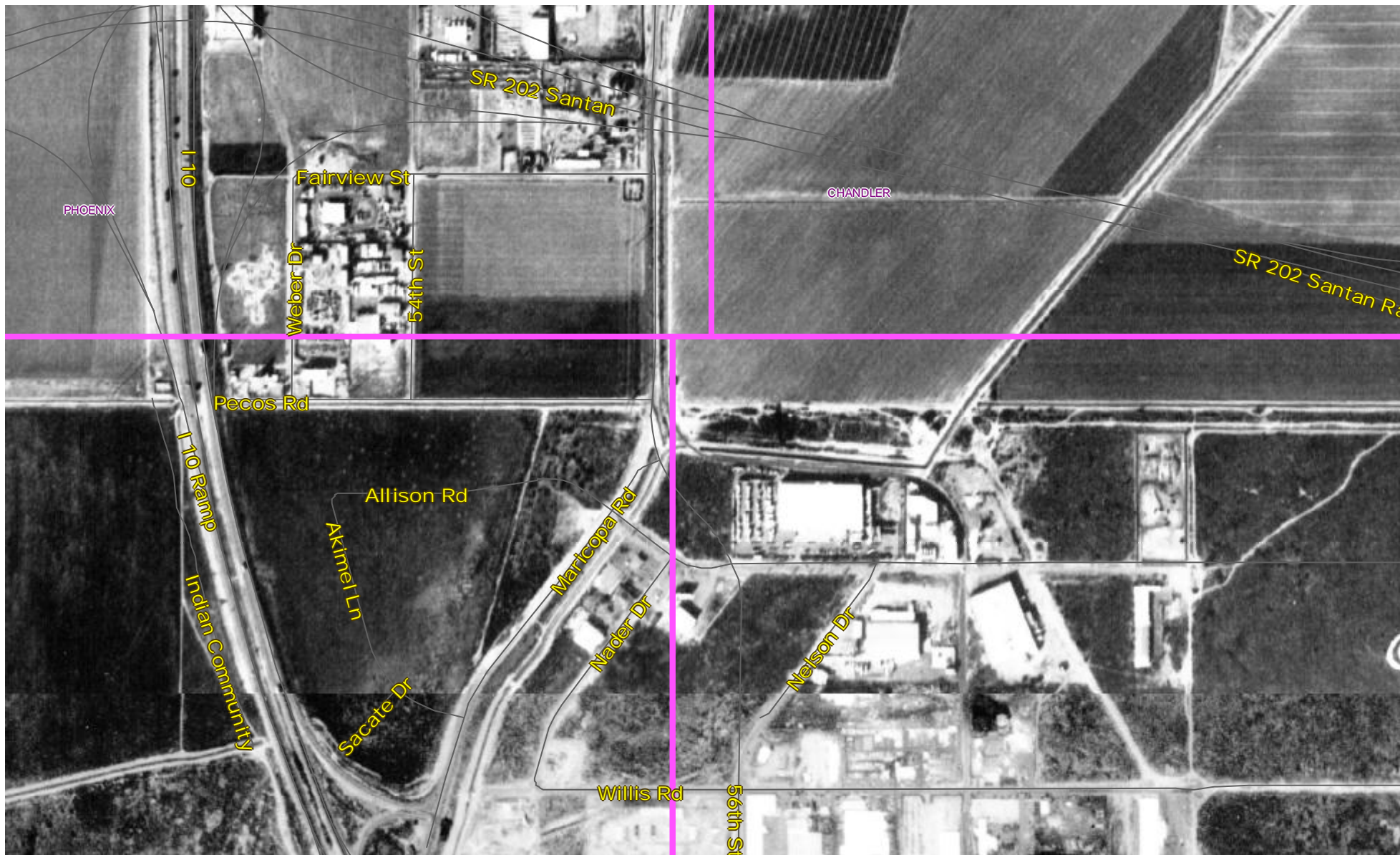
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Former Romic Environmental Technologies Facility

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May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 1992-1993

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

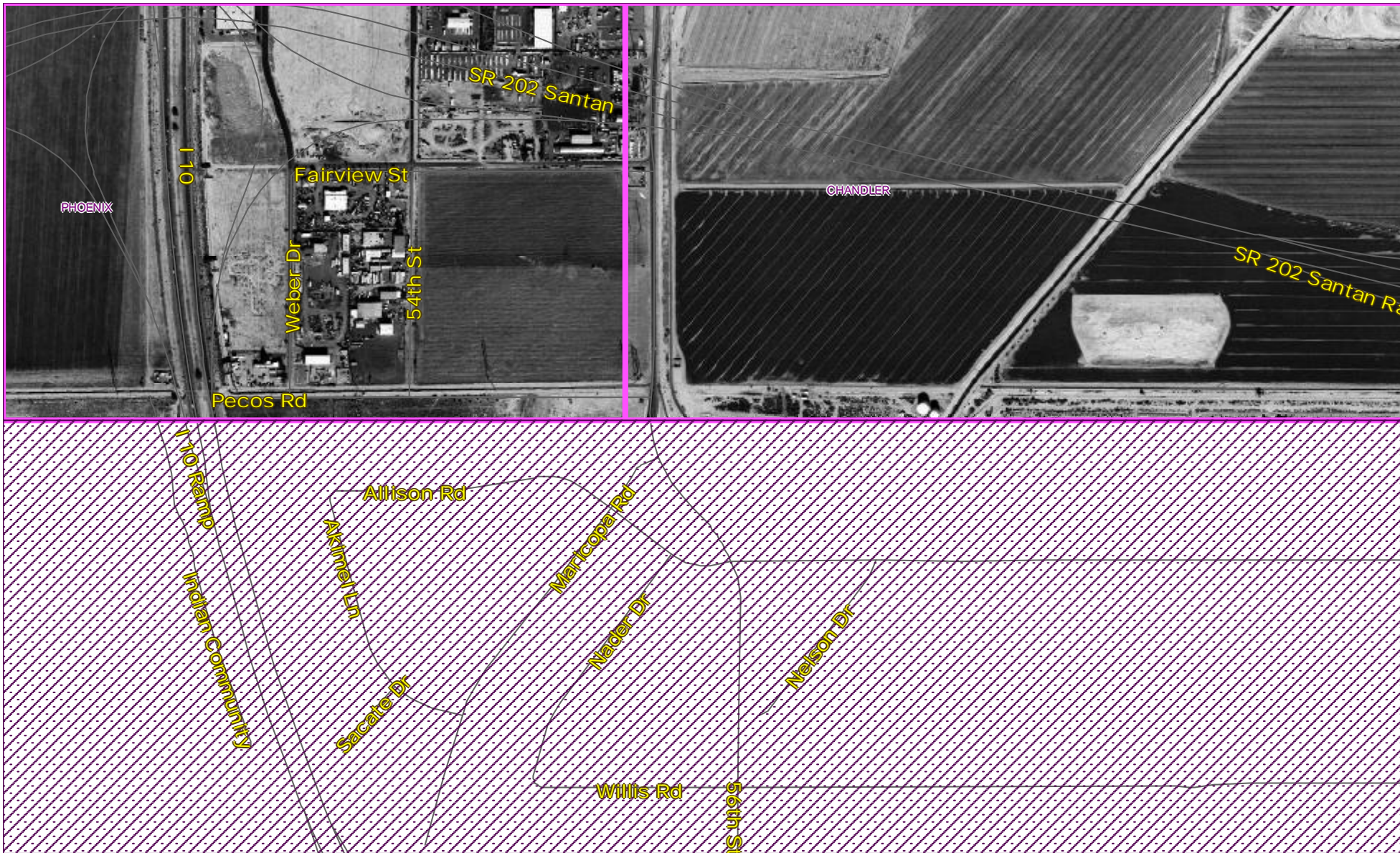
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Former Romic Environmental Technologies Facility

APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 1996-1997

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

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Maricopa County Flood Control District Aerial Photo Circa 1998-1999

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Scottsdale, Arizona 85251
(480) 659-7131

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APPENDIX D

May 2011



Maricopa County Flood Control District Aerial Photo Circa 1999-2000

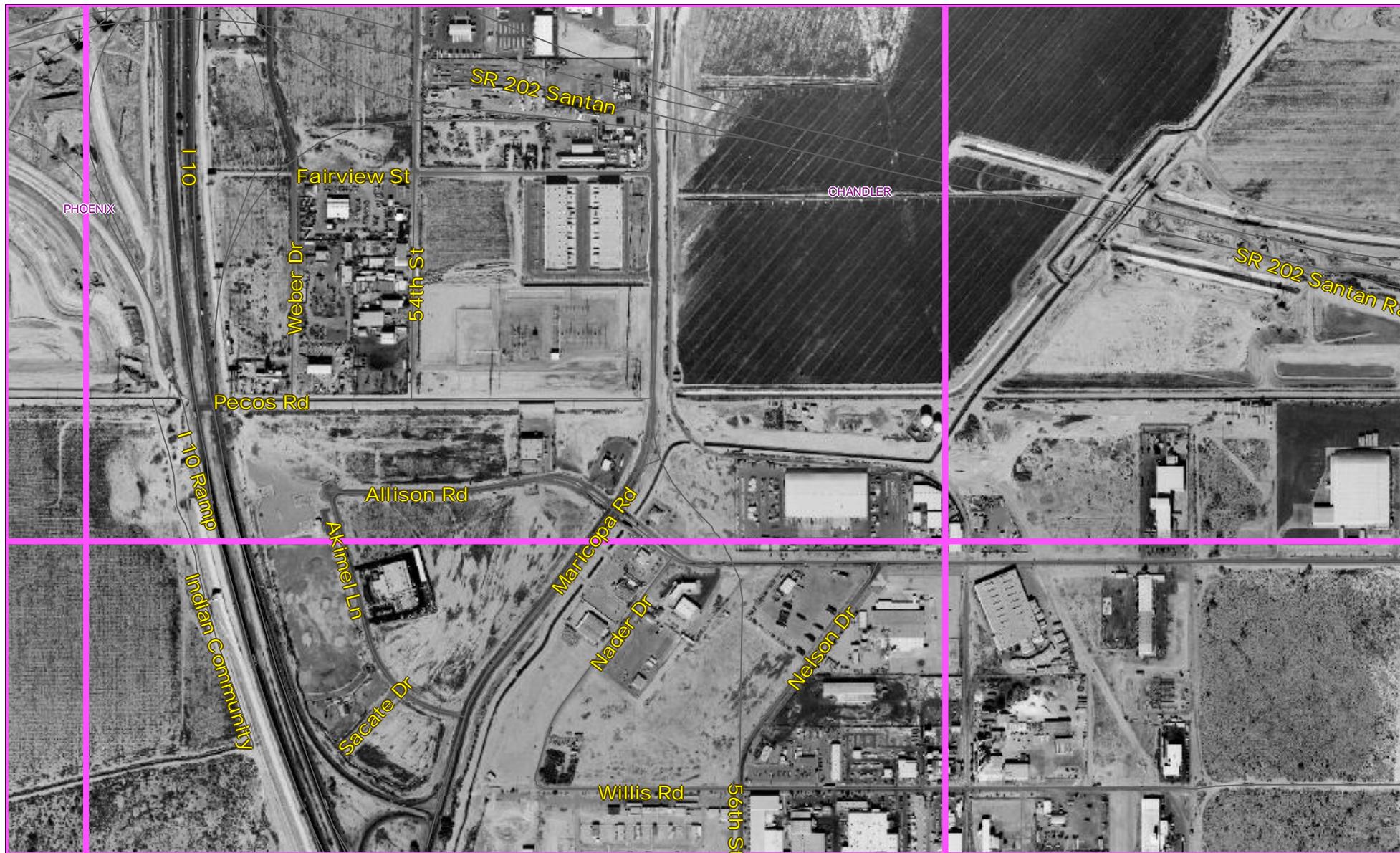
6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

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Former Romic Environmental Technologies Facility

APPENDIX D

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Maricopa County Flood Control District Aerial Photo Circa 2000-2001

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Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

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APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2001-2002

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

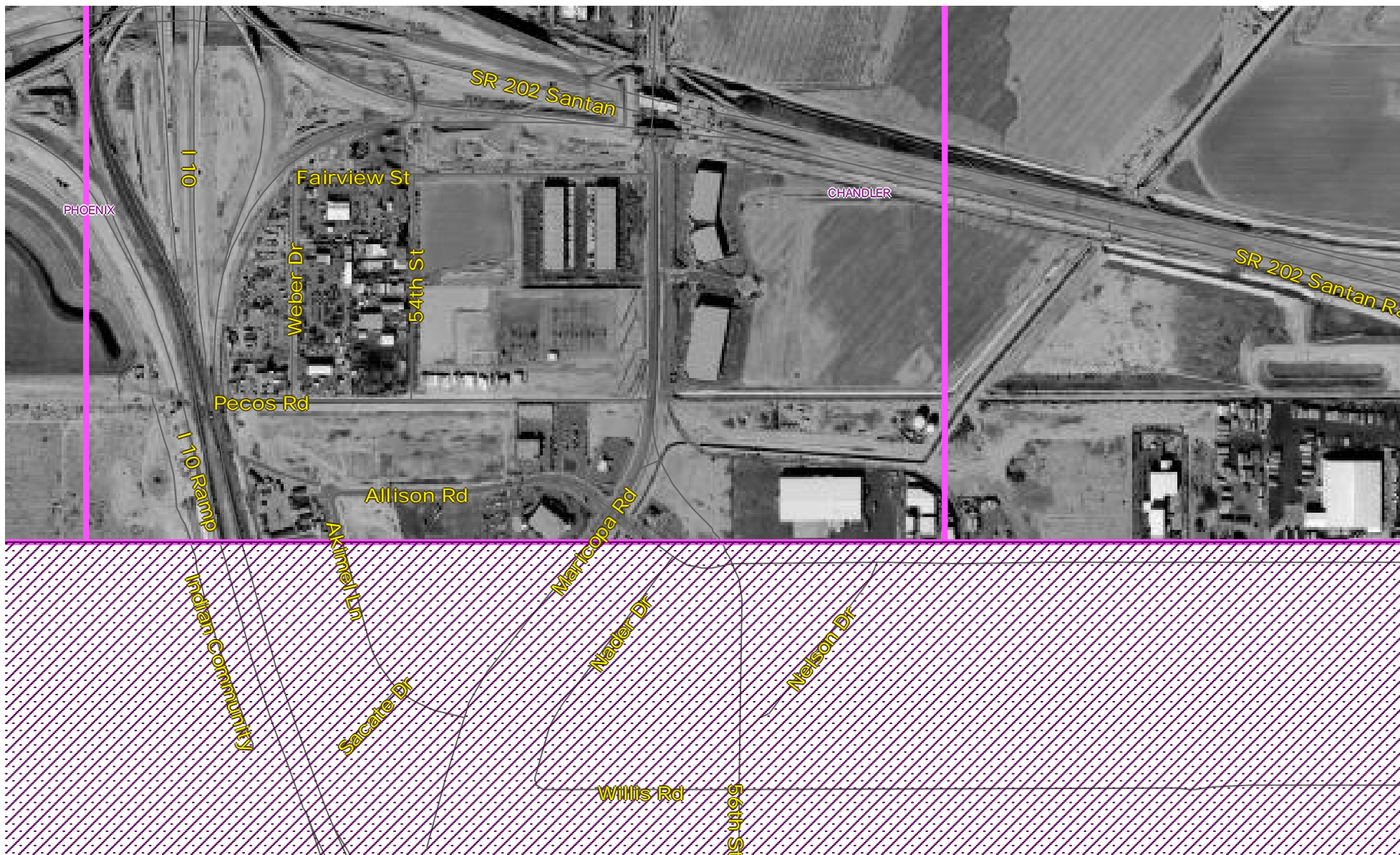
**CLEAR
CREEK
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Former Romic Environmental Technologies Facility

APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2002-2003

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

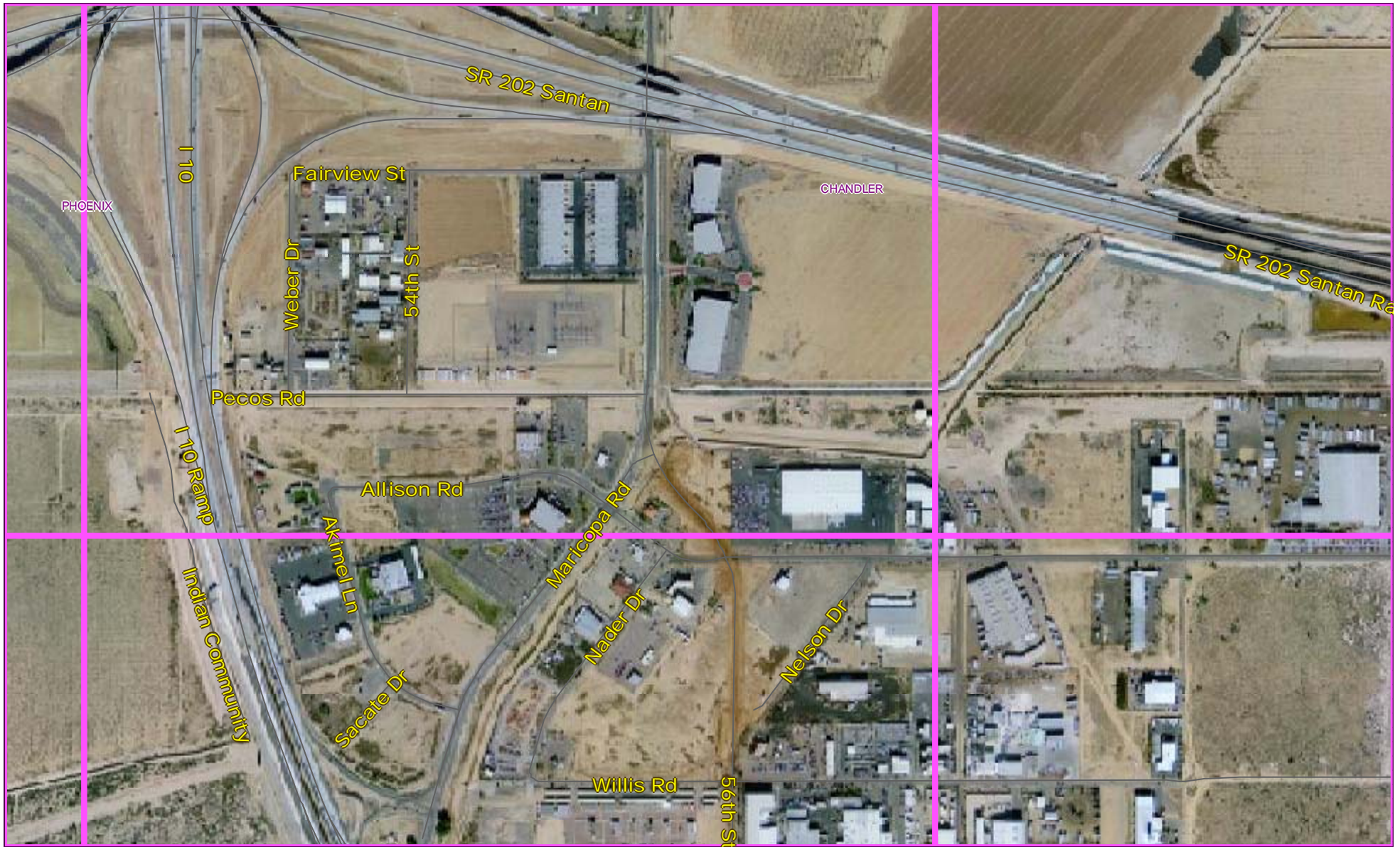
**CLEAR
CREEK
ASSOCIATES**

Conceptual Site Model Report
Former Romic Environmental Technologies Facility

APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2003-2004

6155 East Indian School Road
Suite 200
Scottsdale, Arizona 85251
(480) 659-7131

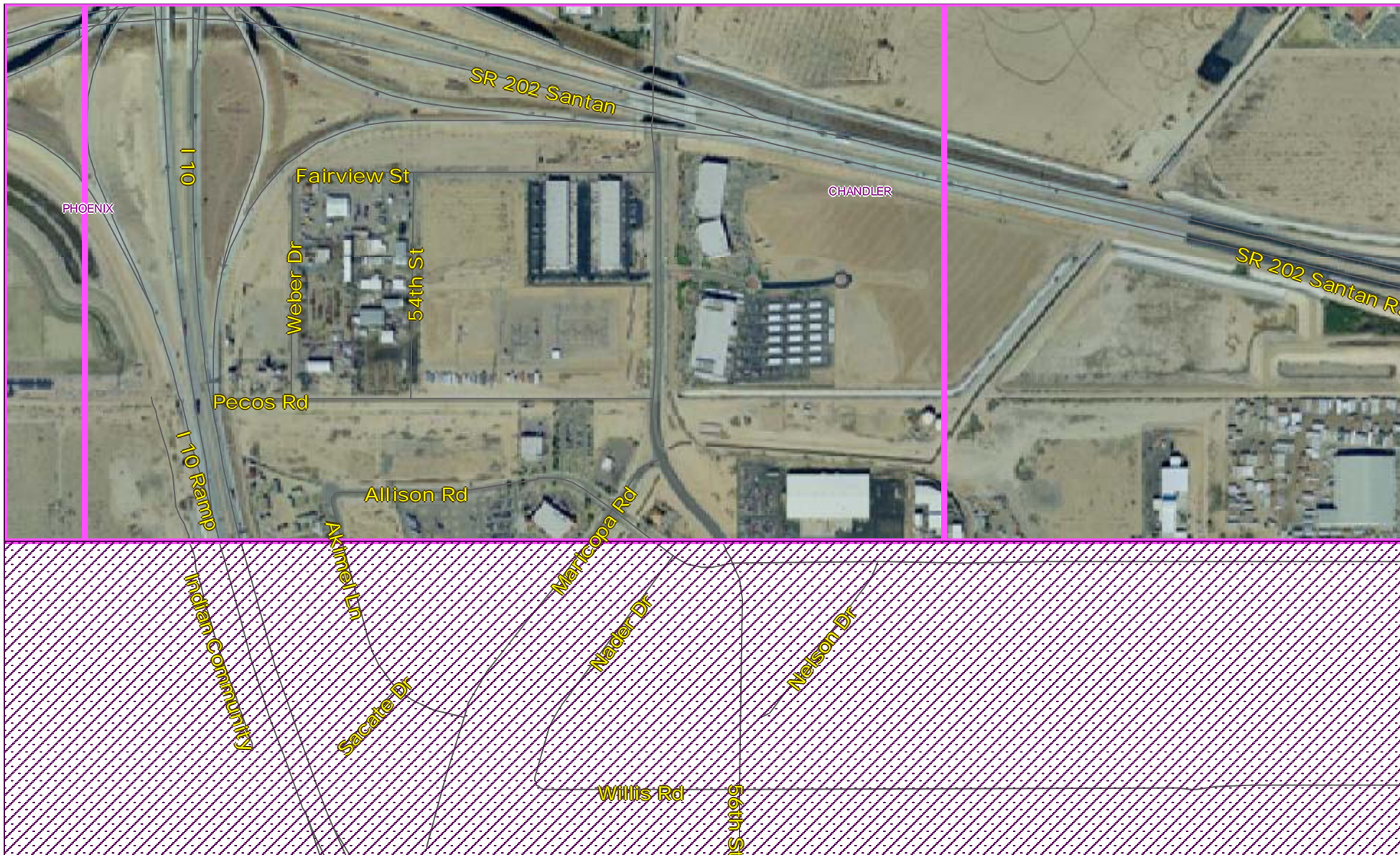
**CLEAR
CREEK
ASSOCIATES**

Conceptual Site Model Report
Former Romic Environmental Technologies Facility

APPENDIX D

May 2011

Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2004-2005

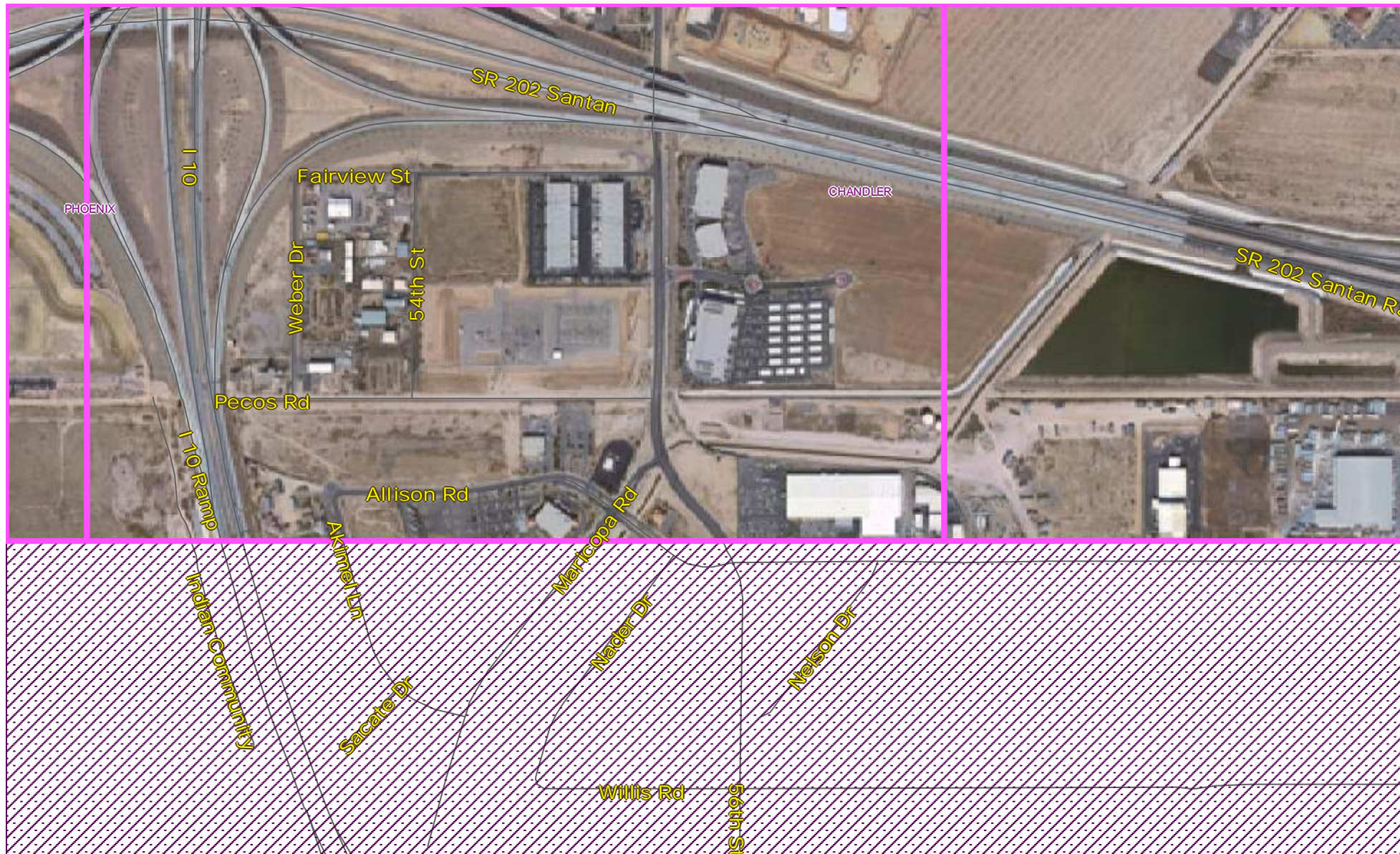
6155 East Indian School Road
Suite 200
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(480) 659-7131

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Maricopa County Flood Control District Aerial Photo Circa 2005-2006

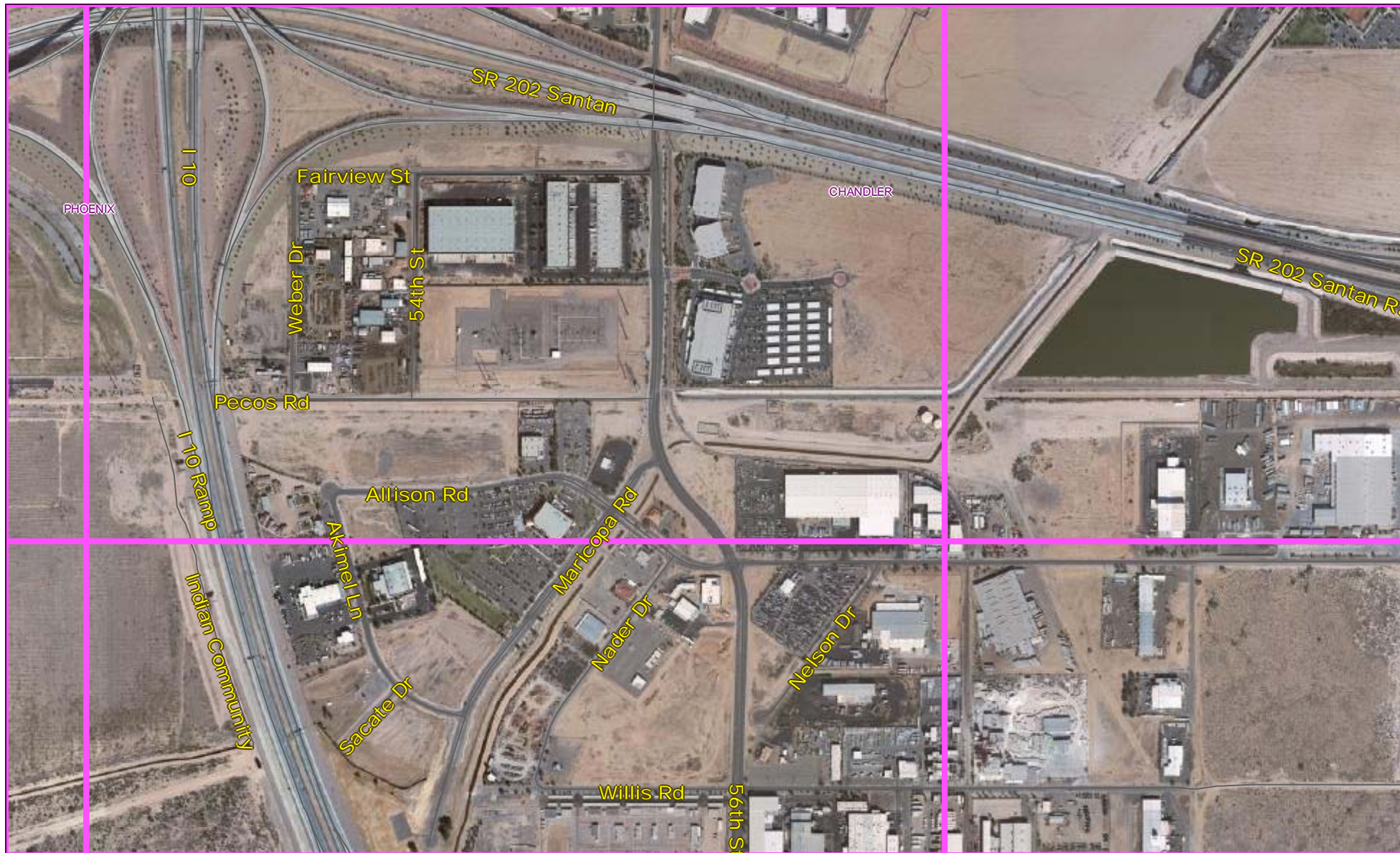
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Maricopa County Flood Control District Aerial Photo Circa 2006-2007

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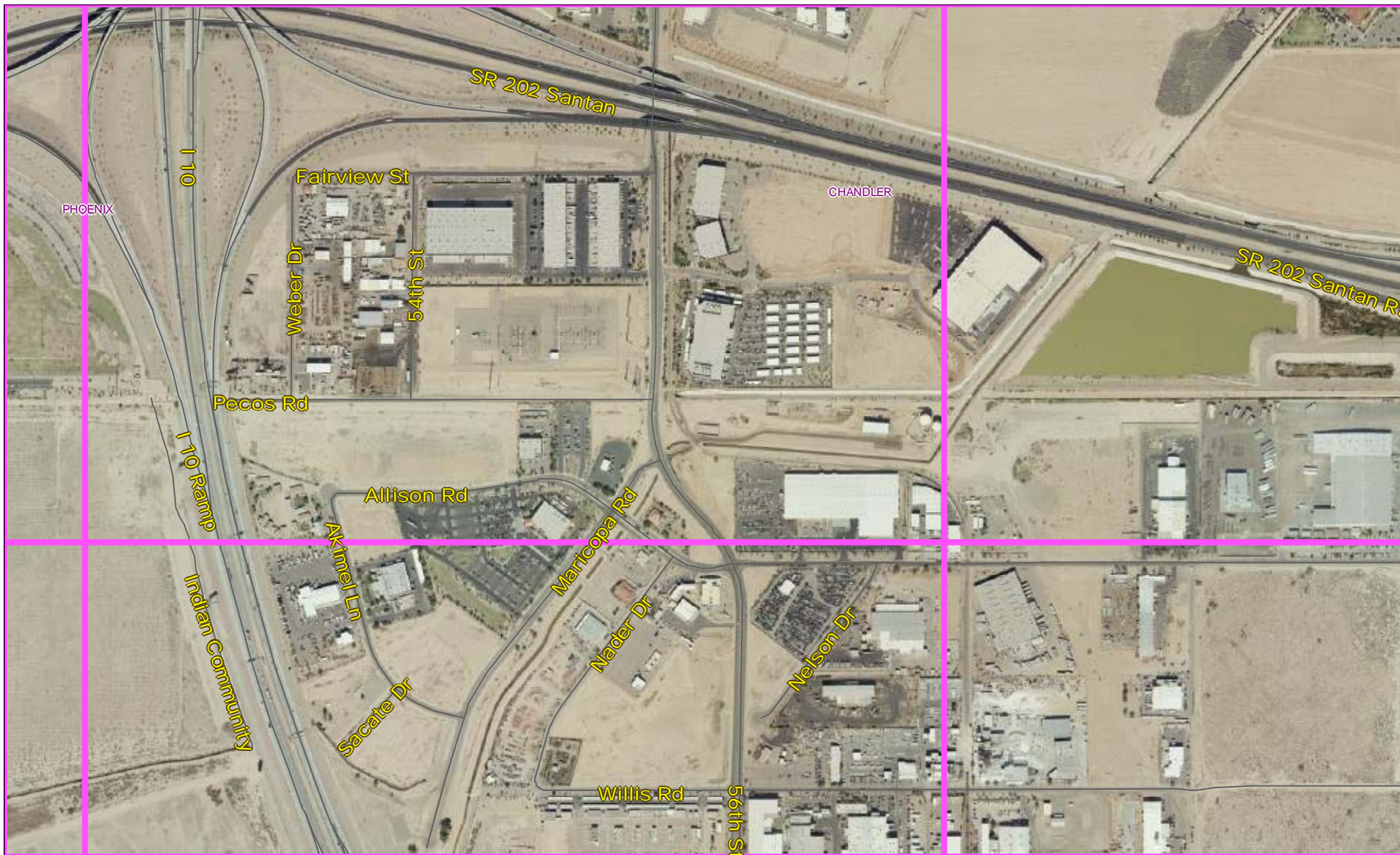
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Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2007-2008

6155 East Indian School Road
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Scottsdale, Arizona 85251
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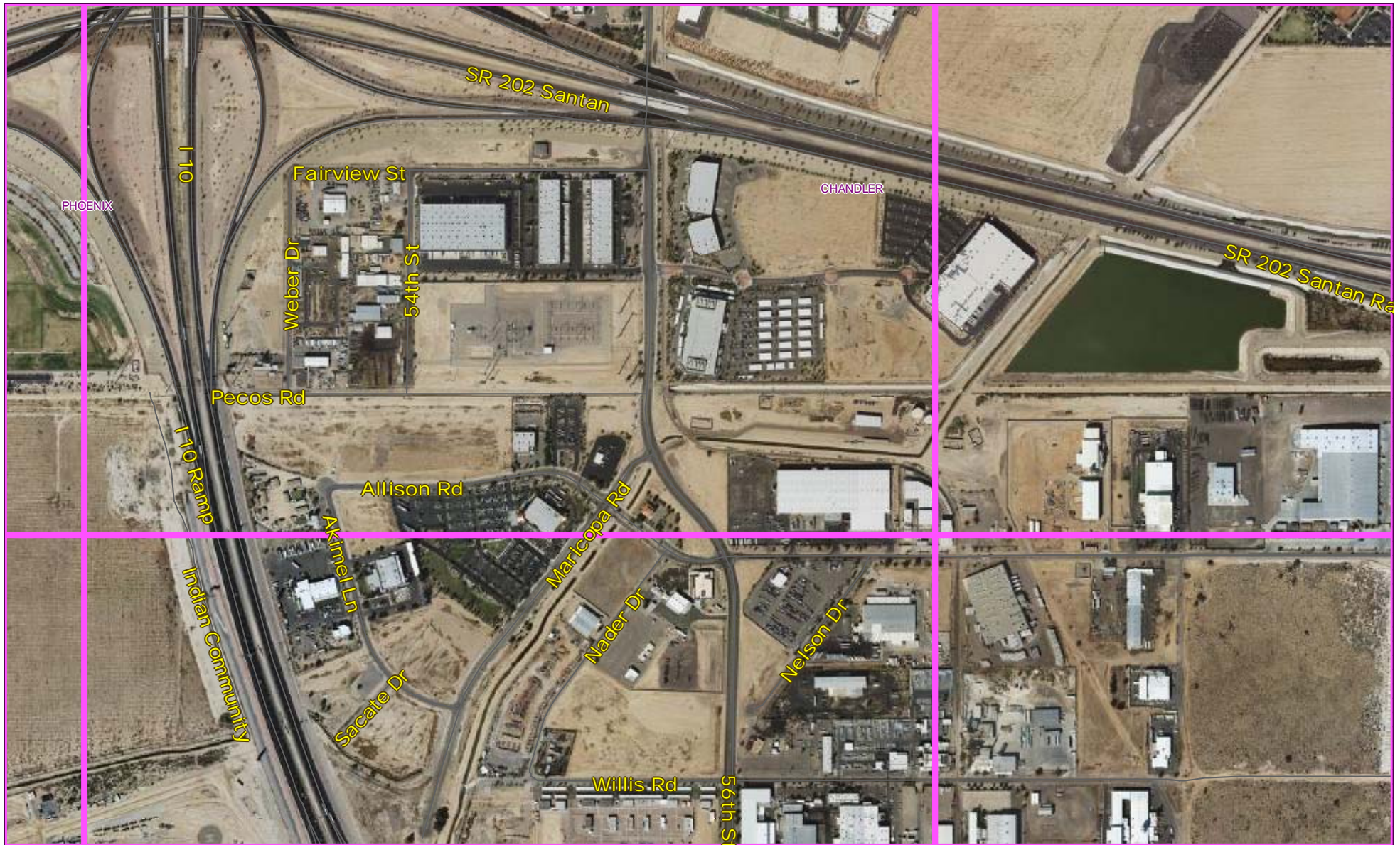
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Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2008-2009

6155 East Indian School Road
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Scottsdale, Arizona 85251
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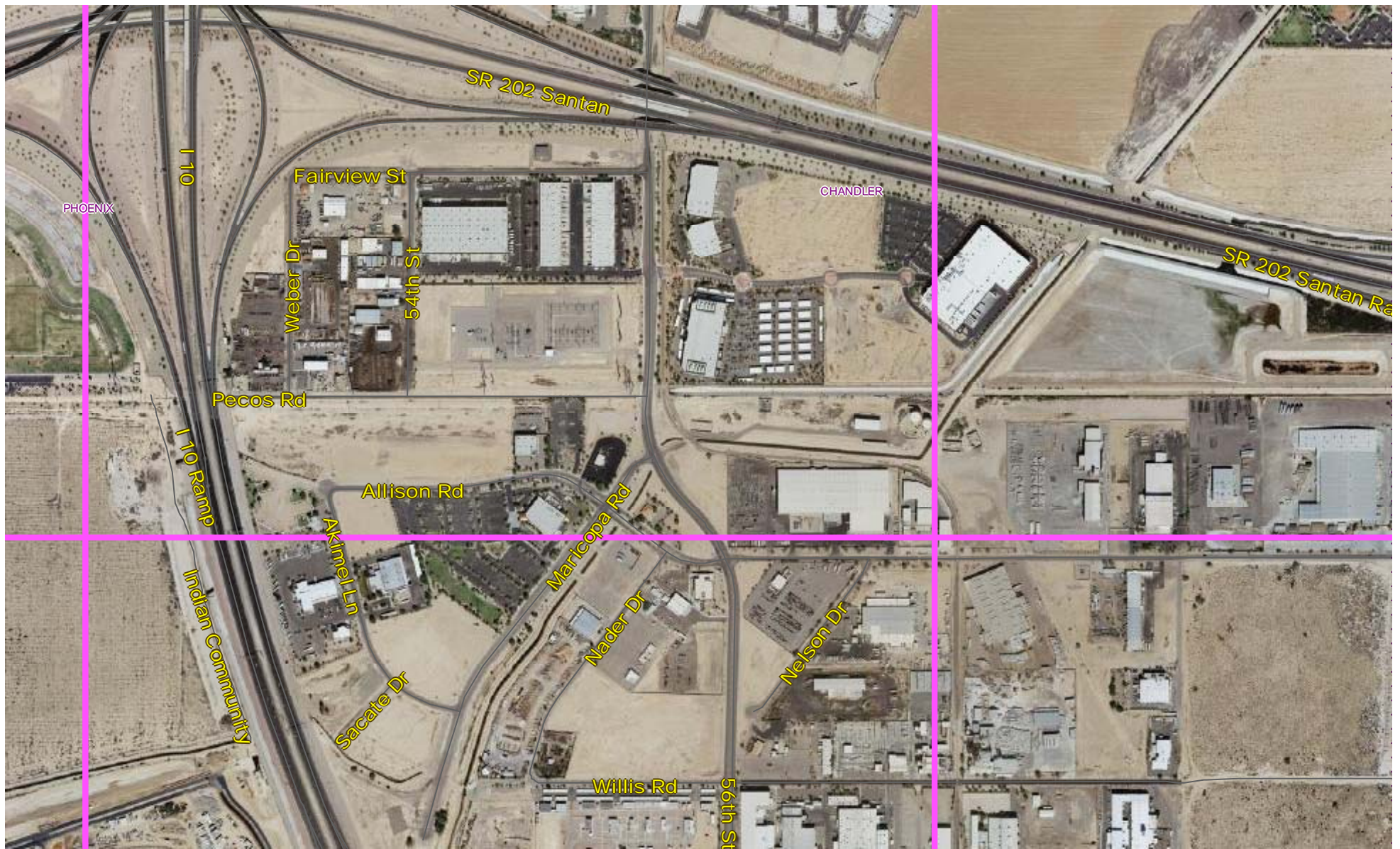
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Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.



Maricopa County Flood Control District Aerial Photo Circa 2009-2010

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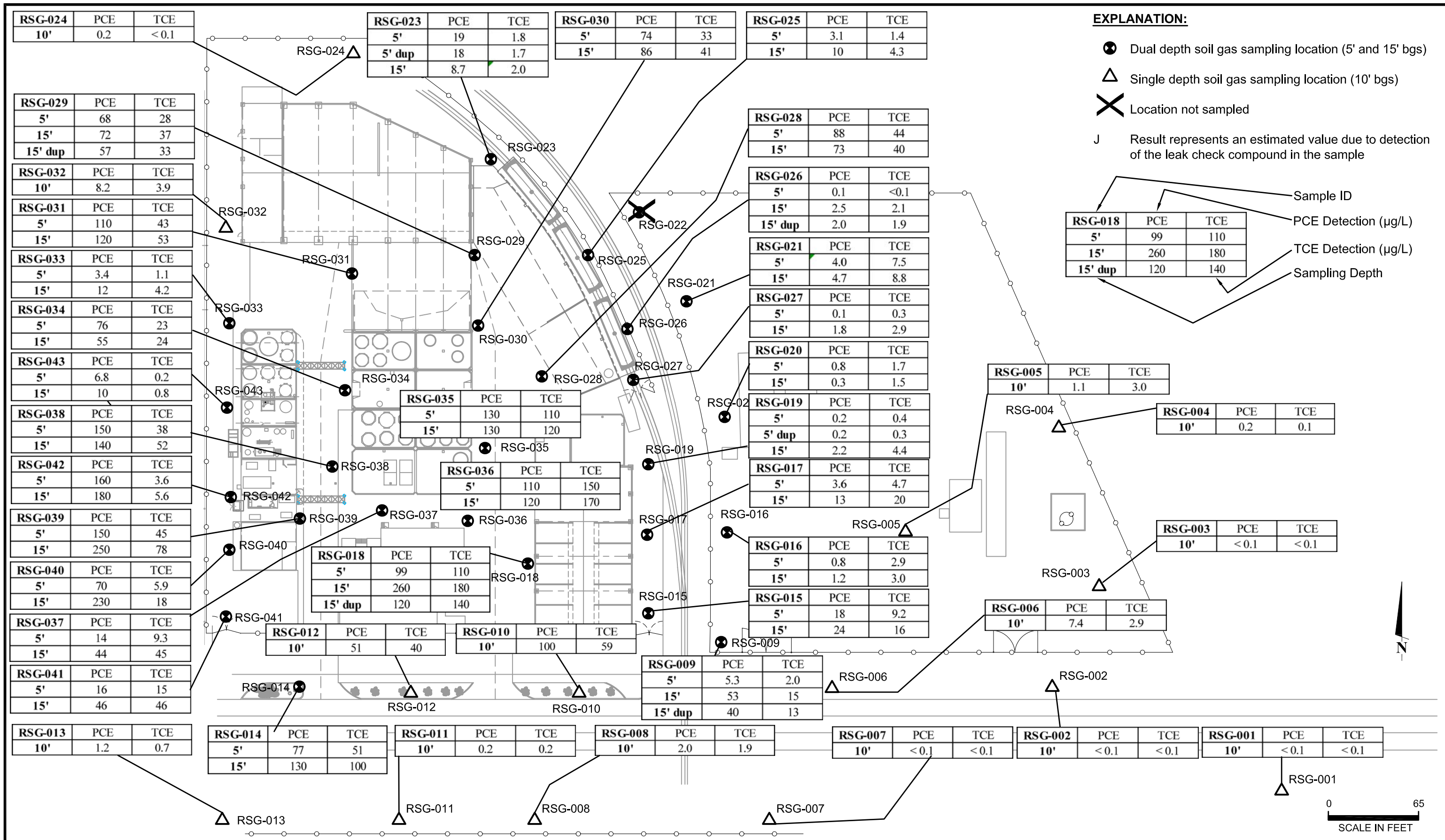
May 2011

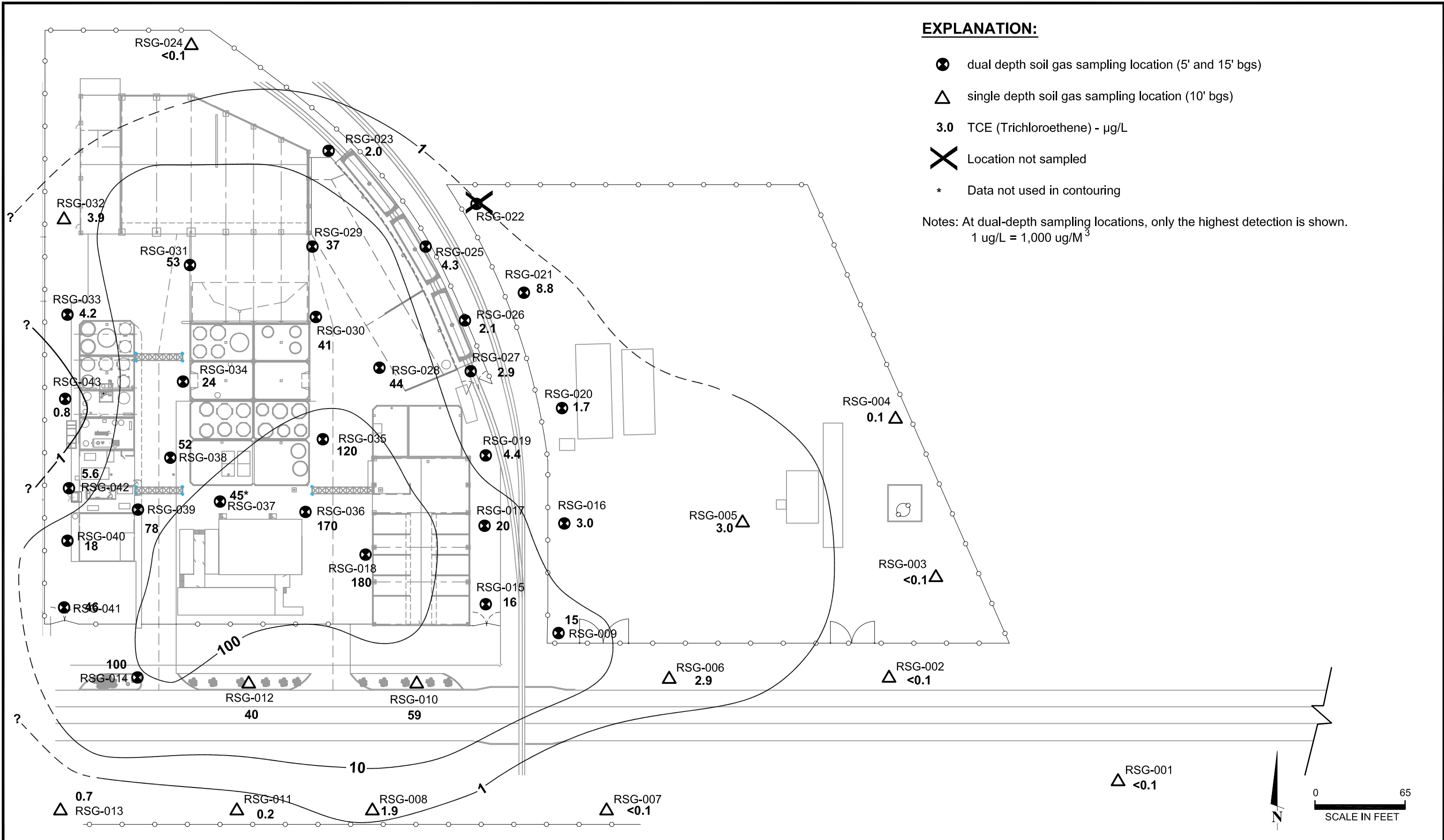
Note: Aerial photo downloaded from Maricopa County Flood Control District website in November 2010.

APPENDIX E

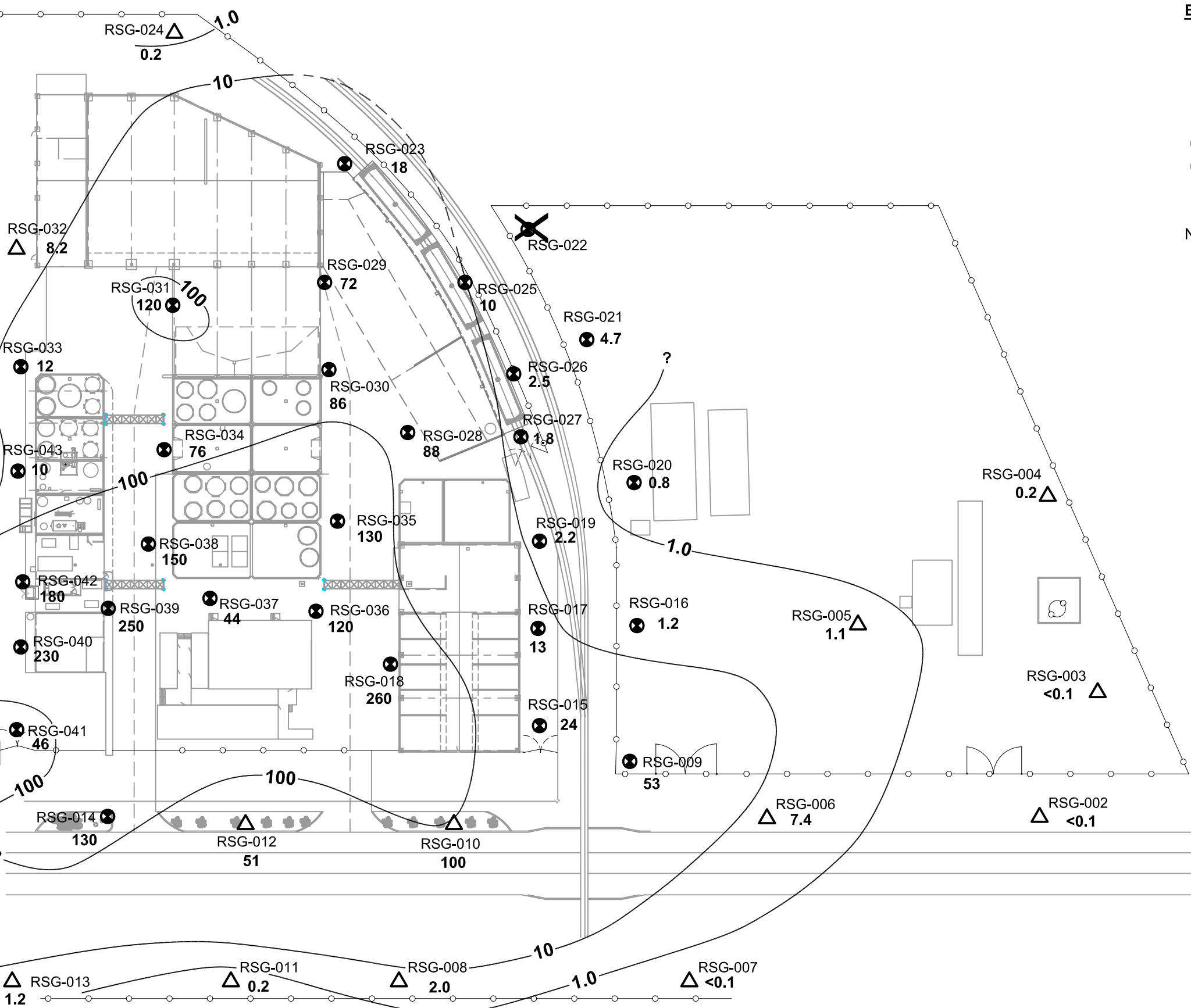
SHALLOW SOIL GAS INVESTIGATION DATA

I:\Romic\Romic_AZ\CAD\Site Plan.dwg





I:\Romic\Bomic AZ\CAD\Site Plan.dwg



EXPLANATION:

- dual depth soil gas sampling location (5' and 15' bgs)
- △ single depth soil gas sampling location (10' bgs)
- 4.7 PCE (Tetrachloroethene) - µg/L
- ✕ Location not sampled
- * Data not used in contouring

Notes: At dual-depth sampling locations, only the highest detection is shown.
1 ug/L = 1,000 ug/M³

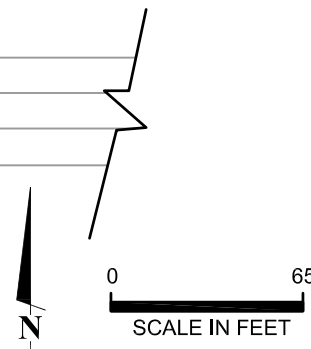


TABLE 1 - SOIL GAS PROBE CONSTRUCTION DETAILS**Romic Environmental Technologies Corporation****Gila River Indian Community, Arizona**

Probe ID	Installation Date	Cadastral / Legal Location	Surface Type	Drill Rig	Drilling Method	Borehole Diameter (inches)	Total Depth (feet bgs)	Probe Depths (feet bgs)	Top of Filter Pack Sand (feet bgs)	Bottom of Filter Pack Sand (feet bgs)
RSG-001	16-Apr-08	D-02-04 04 BDB	Gravel	CME-75	Direct Push	2	10' 5"	9' 11"	9' 5"	10' 5"
RSG-002	16-Apr-08	D-02-04 04 BAC	Landscape	CME-75	Direct Push	2	10' 5"	9' 11"	9' 5"	10' 5"
RSG-003	16-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-004	16-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-005	16-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-006	16-Apr-08	D-02-04 04 BAC	Landscape	CME-75	Direct Push	2	10' 8"	10' 2"	9' 8"	10' 8"
RSG-007	17-Apr-08	D-02-04 04 BDB	Landscape	CME-75	Direct Push	2	10' 9"	10' 3"	9' 9"	10' 9"
RSG-008	16-Apr-08	D-02-04 04 BCA	Landscape	CME-75	Direct Push	2	10' 8"	10' 2"	9' 8"	10' 8"
RSG-009	14-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Solid Stem Auger	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-010	16-Apr-08	D-02-04 04 BBD	Landscape	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-011	16-Apr-08	D-02-04 04 BCA	Landscape	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-012	16-Apr-08	D-02-04 04 BBD	Landscape	CME-75	Direct Push	2	10' 6"	10'	9' 3"	10' 6"
RSG-013	16-Apr-08	D-02-04 04 BCA	Landscape	CME-75	Direct Push	2	10' 6"	10'	9' 6"	10' 6"
RSG-014	16-Apr-08	D-02-04 04 BBD	Landscape	CME-75	Direct Push	2	15' 4"	5' and 14' 10"	4' 6" and 14' 4"	5' 6" and 15' 4"
RSG-015	14-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 3"	5' and 14' 9"	4' 6" and 14' 3"	5' 6" and 15' 3"
RSG-016	14-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-017	14-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-018	14-Apr-08	D-02-04 04 BBD	Concrete (7")	CME-75	Direct Push	2	14' 11"	5' and 14' 5"	4' 6" and 13' 11"	5' 6" and 14' 11"
RSG-019	14-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-020	14-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push and Solid Stem Auger	2 and 4	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-021	14-Apr-08	D-02-04 04 BAC	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 2" and 14' 6"	5' 6" and 15' 6"
RSG-022*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RSG-023	11-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-024	11-Apr-08	D-02-04 04 BBD	Gravel	Truck Mounted Rig	Direct Push	2	10' 5"	9' 11"	9' 5"	10' 5"
RSG-025	15-Apr-08	D-02-04 04 BBD	Ballast (2')	Bobcat Rig	Solid Stem Auger	4	14' 9"	5' and 14' 3"	4' 6" and 13' 9"	5' 6" and 14' 9"
RSG-026	15-Apr-08	D-02-04 04 BBD	Ballast (2')	Bobcat Rig	Solid Stem Auger	4	15'	5' and 14' 6"	4' 6" and 14'	5' 6" and 15'
RSG-027	15-Apr-08	D-02-04 04 BBD	Ballast (2')	Bobcat Rig	Solid Stem Auger	4	14' 11"	5' and 14' 5"	4' 6" and 13' 11"	5' 6" and 14' 11"
RSG-028	15-Apr-08	D-02-04 04 BBD	Concrete (7")	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-029	15-Apr-08	D-02-04 04 BBD	Concrete (8")	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-030	11-Apr-08	D-02-04 04 BBD	Concrete (6")	CME-75	Direct Push	2	15'	5' and 14' 6"	4' 6" and 14'	5' 6" and 15'
RSG-031	11-Apr-08	D-02-04 04 BBD	Concrete (6.5")	CME-75	Direct Push	2	15'	5' and 14' 6"	4' 6" and 14'	5' 6" and 15'
RSG-032	11-Apr-08	D-02-04 04 BBD	Gravel	Truck Mounted Rig	Direct Push	2	10' 3"	9' 9"	9' 3"	10' 3"
RSG-033	15-Apr-08	D-02-04 04 BBD	Concrete (6")	CME-75	Direct Push	2	15' 7"	5' and 15' 1"	4' 6" and 14' 7"	5' 6" and 15' 7"
RSG-034	15-Apr-08	D-02-04 04 BBD	Concrete (8")	CME-75	Direct Push	2	16'	5' and 15' 5"	4' 6" and 15'	5' 6" and 16'
RSG-035	15-Apr-08	D-02-04 04 BBD	Concrete (7")	CME-75	Direct Push	2	15'	5' and 14' 6"	4' 6" and 14'	5' 6" and 15'
RSG-036	14-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-037	14-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Solid Stem Auger	4	15'	5' and 14' 6"	4' 2" and 14'	5' 6" and 15'
RSG-038	15-Apr-08	D-02-04 04 BBD	Concrete (7")	CME-75	Direct Push	2	15'	5' and 14' 6"	4' 6" and 14'	5' 6" and 15'
RSG-039	15-Apr-08	D-02-04 04 BBD	Concrete (6.5")	CME-75	Direct Push	2	15' 7"	5' and 15' 1"	4' 6" and 14' 7"	5' 6" and 15' 7"
RSG-040	15-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 7"	5' and 15' 1"	4' 6" and 14' 7"	5' 6" and 15' 7"
RSG-041	15-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 9"	5' and 15' 3"	4' 6" and 14' 9"	5' 6" and 15' 9"
RSG-042	15-Apr-08	D-02-04 04 BBD	Gravel	CME-75	Direct Push	2	15' 6"	5' and 15'	4' 6" and 14' 6"	5' 6" and 15' 6"
RSG-043	15-Apr-08	D-02-04 04 BBD	Concrete (6.5")	CME-75	Direct Push	2	15' 10"	5' and 15' 4"	4' 6" and 14' 10"	5' 6" and 15' 10"

Notes:

feet bgs: Feet below ground surface

* RSG-022 not installed due to obstructions in vicinity of proposed boring.

TABLE 2 - SUMMARY OF SAMPLE DEPTHS AND ANALYSES**Romic Environmental Technologies Corporation****Gila River Indian Community, Arizona**

Sample ID	Boring Type	No. Samples per Boring	Sample Depths ⁽²⁾	Summary of Analyses ⁽¹⁾
				VOCs
RSG-001	Single Implant	One	10	X
RSG-002	Single Implant	One	10	X
RSG-003	Single Implant	One	10	X
RSG-004	Single Implant	One	10	X
RSG-005	Single Implant	One	10	X
RSG-006	Single Implant	One	10	X
RSG-007	Single Implant	One	10	X
RSG-008	Single Implant	One	10	X
RSG-009	Dual Implant	Two	5, 15	X
RSG-010	Single Implant	One	10	X
RSG-011	Single Implant	One	10	X
RSG-012	Single Implant	One	10	X
RSG-013	Single Implant	One	10	X
RSG-014	Dual Implant	Two	5, 15	X
RSG-015	Dual Implant	Two	5, 15	X
RSG-016	Dual Implant	Two	5, 15	X
RSG-017	Dual Implant	Two	5, 15	X
RSG-018	Dual Implant	Two	5, 15	X
RSG-019	Dual Implant	Two	5, 15	X
RSG-020	Dual Implant	Two	5, 15	X
RSG-021	Dual Implant	Two	5, 15	X
RSG-022*	--	--	--	--
RSG-023	Dual Implant	Two	5, 15	X
RSG-024	Single Implant	One	10	X
RSG-025	Dual Implant	Two	5, 15	X
RSG-026	Dual Implant	Two	5, 15	X
RSG-027	Dual Implant	Two	5, 15	X
RSG-028	Dual Implant	Two	5, 15	X
RSG-029	Dual Implant	Two	5, 15	X
RSG-030	Dual Implant	Two	5, 15	X
RSG-031	Dual Implant	Two	5, 15	X
RSG-032	Single Implant	One	10	X
RSG-033	Dual Implant	Two	5, 15	X
RSG-034	Dual Implant	Two	5, 15	X
RSG-035	Dual Implant	Two	5, 15	X
RSG-036	Dual Implant	Two	5, 15	X
RSG-037	Dual Implant	Two	5, 15	X
RSG-038	Dual Implant	Two	5, 15	X
RSG-039	Dual Implant	Two	5, 15	X
RSG-040	Dual Implant	Two	5, 15	X
RSG-041	Dual Implant	Two	5, 15	X
RSG-042	Dual Implant	Two	5, 15	X
RSG-043	Dual Implant	Two	5, 15	X

Notes:

(1) "VOCs" indicates halogenated volatile compounds by USEPA method 8260.

(2) Except where noted, sample depths indicated in approximate feet below ground surface.

* RSG-022 not installed due to obstructions in vicinity of proposed boring.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-001-10	RSG-002-10	RSG-003-10	RSG-004-10	RSG-005-10	RSG-006-10	RSG-007-10	RSG-008-10
Depth (ft bgs)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Date	4/16/2008	4/17/2008	4/17/2008	4/17/2008	4/17/2008	4/17/2008	4/17/2008	4/16/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5
1,1-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	0.2	1.3	< 0.1	2.0
Methylene chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
cis-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroform	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzene	0.3	0.2	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Trichloroethene	< 0.1	< 0.1	< 0.1	0.1	3.0	2.9	< 0.1	1.9
Toluene	1.0	0.7	< 0.5	< 0.5	< 0.5	0.8	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	< 0.1	< 0.1	< 0.1	0.2	1.1	7.4	< 0.1	2.0
Ethylbenzene	0.1	0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5
o-Xylene	0.1	< 0.1	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-009-5	RSG-009-15	RSG-009-15 dup	RSG-010-10	RSG-011-10	RSG-012-10	RSG-013-10	RSG-014-5
Depth (ft bgs)	5.0	15.0	15.0	10.0	10.0	10.0	10.0	5.0
Date	4/17/2008	4/17/2008	4/17/2008	4/17/2008	4/16/2008	4/17/2008	4/16/2008	4/17/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1	< 0.5	< 0.1
1,1-Dichloroethene	0.4	4.1	4.0	28	0.2	9.1	0.5	10
Methylene chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5	< 0.5	< 0.5	5.2	< 0.5	0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	< 0.1	< 0.1	< 0.1	0.4	< 0.1	0.2	< 0.1	0.2
cis-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	0.1	< 0.1	0.2	< 0.1	0.1
Chloroform	< 0.1	< 0.1	< 0.1	0.6	< 0.1	0.2	< 0.1	0.4
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzene	< 0.1	< 0.1	< 0.1	0.3	< 0.1	0.1	< 0.1	< 0.1
Trichloroethene	2.0	15	13	59	0.2	40	0.7	51
Toluene	< 0.5	< 0.5	< 0.5	1.2	< 0.5	0.7	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	5.3	53	40	100	0.2	51	1.2	77
Ethylbenzene	< 0.1	< 0.1	< 0.1	0.2	< 0.1	0.2	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	0.8	< 0.5	0.7	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	0.2	< 0.1	0.2	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

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< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-014-15	RSG-015-5	RSG-015-15	RSG-016-5	RSG-016-15	RSG-017-5	RSG-017-15	RSG-018-5
Depth (ft bgs)	15.0	5.0	15.0	5.0	15.0	5.0	15.0	5.0
Date	4/17/2008	4/15/2008	4/15/2008	4/14/2008	4/14/2008	4/15/2008	4/15/2008	4/14/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 10	< 10	< 0.5	< 0.5	< 10	< 10	< 0.5
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	23	3.0	5.0	0.3	0.5	0.5	1.6	18
Methylene chloride	< 0.1	< 0.1	< 0.1	0.1	0.1	< 0.1	< 0.1	0.1
Freon 113	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	0.4	0.1	0.3	< 0.1	0.2	0.1	0.6	1.2
cis-1,2-Dichloroethene	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroform	0.5	0.4	0.7	< 0.1	< 0.1	0.1	0.5	20
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Benzene	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Trichloroethene	100	9.2	16	2.9	3.0	4.7	20	110
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	130	18	24	0.8	1.2	3.6	13	99
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-018-15	RSG-018-15 dup	RSG-019-5	RSG-019-5 dup	RSG-019-15	RSG0-20-5	RSG-020-15	RSG-021-5
Depth (ft bgs)	15.0	15.0	5.0	5.0	15.0	5.0	15.0	5.0
Date	4/14/2008	4/14/2008	4/15/2008	4/15/2008	4/15/2008	4/14/2008	4/14/2008	4/14/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 0.5	<10	< 10	< 10	< 10	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	27	23	< 0.1	< 0.1	0.3	< 0.1	0.2	1.7
Methylene chloride	0.1	0.1	< 0.1	< 0.1	< 0.1	0.1	0.1	0.1
Freon 113	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	2.2	1.8	< 0.1	< 0.1	0.3	0.3	0.4	1.5
cis-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.3	0.5	1.5
Chloroform	34	29	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.1
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	0.7	0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzene	0.2	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	180	140	0.4	0.3	4.4	1.7	1.5	7.5
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	260	120	0.2	0.2	2.2	0.8	0.3	4.0
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

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value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-021-15	RSG-023-5	RSG-023-5 dup	RSG-023-15	RSG-024-10	RSG-025-5	RSG-025-15	RSG-026-5
Depth (ft bgs)	15.0	5.0	5.0	15.0	10	5.0	15.0	5.0
Date	4/14/2008	4/14/2008	4/14/2008	4/14/2008	4/14/2008	4/18/2008	4/18/2008	4/18/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	<10	< 0.5	< 0.5	< 0.5	< 0.5	<10	<10	<10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	1.7	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	0.3	<0.1
Methylene chloride	0.1	0.3	0.1	0.2	< 0.1	<0.1	<0.1	<0.1
Freon 113	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
1,1-Dichloroethane	2.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	0.8	< 0.1
cis-1,2-Dichloroethene	2.4	< 0.1	< 0.1	< 0.1	< 0.1	0.4	1.7	< 0.1
Chloroform	0.2	0.1	0.1	0.2	< 0.1	0.2	0.4	< 0.1
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	8.8	1.8	1.7	2.0	< 0.1	1.4	4.3	<0.1
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
Tetrachloroethene	4.7	19	18	8.7	0.2	3.1	10	0.1
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

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value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-026-15	RSG-026-15 dup	RSG-027-5	RSG-027-15	RSG-028-5	RSG-028-15	RSG-029-5	RSG-029-15
Depth (ft bgs)	15.0	15.0	5.0	15.0	5.0	15.0	5.0	15.0
Date	4/18/2008	4/18/2008	4/18/2008	4/18/2008	4/16/2008	4/16/2008	4/16/2008	4/16/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	<10	<10	<10	<10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	0.5	0.4	< 0.1	0.4	1.1	1.1	1.1	1.4
Methylene chloride	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	<0.5	<0.5	< 0.5	< 0.5	3.2	3.7	< 0.5	< 0.5
trans-1,2-Dichloroethene	<0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	0.3	0.3	< 0.1	0.3	2.1	2.1	1.2	1.5
cis-1,2-Dichloroethene	0.5	0.4	< 0.1	0.3	1.5	1.7	0.7	0.7
Chloroform	0.2	0.1	< 0.1	<0.1	3.3	3.4	1.9	2.9
1,1,1-Trichloroethane	0.4	0.4	< 0.1	0.2	0.1	<0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.5	< 0.1	0.2
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	2.1	1.9	0.3	2.9	44	40	28	37
Toluene	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	<0.1	<0.1	<0.1	<0.1	< 0.1	0.2	< 0.1	0.1
Tetrachloroethene	2.5	2.0	0.1	1.8	88	73	68	72
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

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check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-029-15 dup	RSG-030-5	RSG-030-15	RSG-031-5	1 PV RSG-031-15	3 PV RSG-031-15	7 PV RSG-031-15	RSG-032-10
Depth (ft bgs)	15.0	5.0	15.0	5.0	15.0	15.0	15.0	10
Date	4/16/2008	4/14/2008	4/14/2008	4/14/2008	4/14/2008	4/14/2008	4/14/2008	4/14/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	1.3	1.7	2.5	2.2	2.5	2.3	2.5	0.2
Methylene chloride	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5	< 0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	1.4	1.4	1.9	1.0	1.3	1.3	1.4	0.1
cis-1,2-Dichloroethene	0.7	2.1	3.3	0.1	0.1	0.1	0.1	< 0.1
Chloroform	2.9	2.3	2.9	3.1	2.7	2.7	3.0	0.3
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	0.2	< 0.1	< 0.1	1.8	4.9	4.5	5.3	< 0.1
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	33	33	41	43	45	42	53	3.9
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	0.2	0.2	0.5	0.2	0.3	0.3	0.4	< 0.1
Tetrachloroethene	57	74	86	110	88	82	120	8.2
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-033-5	RSG-033-15	RSG-034-5	RSG-034-15	RSG-035-5	RSG-035-15	RSG-036-5	RSG-036-15
Depth (ft bgs)	5.0	15.0	5.0	15.0	5.0	15.0	5.0	15.0
Date	4/15/2008	4/15/2008	4/15/2008	4/15/2008	4/16/2008	4/16/2008	4/15/2008	4/15/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	< 0.1	0.3	1.4	1.9	5.9	6.4	13	16
Methylene chloride	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	< 0.1	0.1	0.3	0.5	1.7	2.3	2.0	2.9
cis-1,2-Dichloroethene	< 0.1	< 0.1	1.3	1.8	2.1	3.8	0.3	0.5
Chloroform	< 0.1	0.4	0.9	1.4	2.5	2.9	13	18
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	1.7	3.4	2.0	6.2
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.2
Trichloroethene	1.1	4.2	23	24	110	120	150	170
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	3.4	12	76	55	130	130	110	120
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-037-5	RSG-037-15	RSG-038-5	RSG-038-15	RSG-039-5	RSG-039-15	RSG-040-5	RSG-040-15
Depth (ft bgs)	5.0	15.0	5.0	15.0	5.0	15.0	5.0	15.0
Date	4/17/2008	4/17/2008	4/16/2008	4/16/2008	4/16/2008	4/16/2008	4/16/2008	4/16/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	380 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	0.2 J	5.4	2.3	2.5	3.9	6.3	0.9	2.4
Methylene chloride	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5 J	< 0.5	0.5	0.5	< 0.5	0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	0.1 J	0.5	0.5	1.1	0.5	1.2	< 0.1	0.3
cis-1,2-Dichloroethene	0.9 J	1.7	0.5	1.3	0.7	2.0	< 0.1	< 0.1
Chloroform	0.1 J	0.5	1.2	2.7	0.8	1.7	0.1	0.3
1,1,1-Trichloroethane	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1 J	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1	0.2
Benzene	0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	9.3 J	45	38	52	45	78	5.9	18
Toluene	< 0.5 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	14 J	44	150	140	150	250	70	230
Ethylbenzene	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

TABLE 3 - SOIL GAS SAMPLING RESULTS
Romic Environmental Technologies Corporation
Gila River Indian Community, Arizona

Sample ID	RSG-041-5	RSG-041-15	RSG-042-5	RSG-042-15	RSG-043-5	RSG-043-15
Depth (ft bgs)	5.0	15.0	5.0	15.0	5.0	15.0
Date	4/16/2008	4/16/2008	4/15/2008	4/15/2008	4/15/2008	4/15/2008
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1-Difluoroethane	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichlorofluoromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	1.6	4.4	0.8	1.4	< 0.1	< 0.1
Methylene chloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Freon 113	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1-Dichloroethane	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1
cis-1,2-Dichloroethene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3
Chloroform	< 0.1	0.2	0.1	0.3	< 0.1	0.2
1,1,1-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon tetrachloride	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Trichloroethene	15	46	3.6	5.6	0.2	0.8
Toluene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	16	46	160	180	6.8	10
Ethylbenzene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,1,1,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m,p-Xylene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-Xylene	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
1,1,2,2-Tetrachloroethane	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Notes:

ft bgs = feet below ground surface.

µg/l = micrograms per liter

PV = purge volume

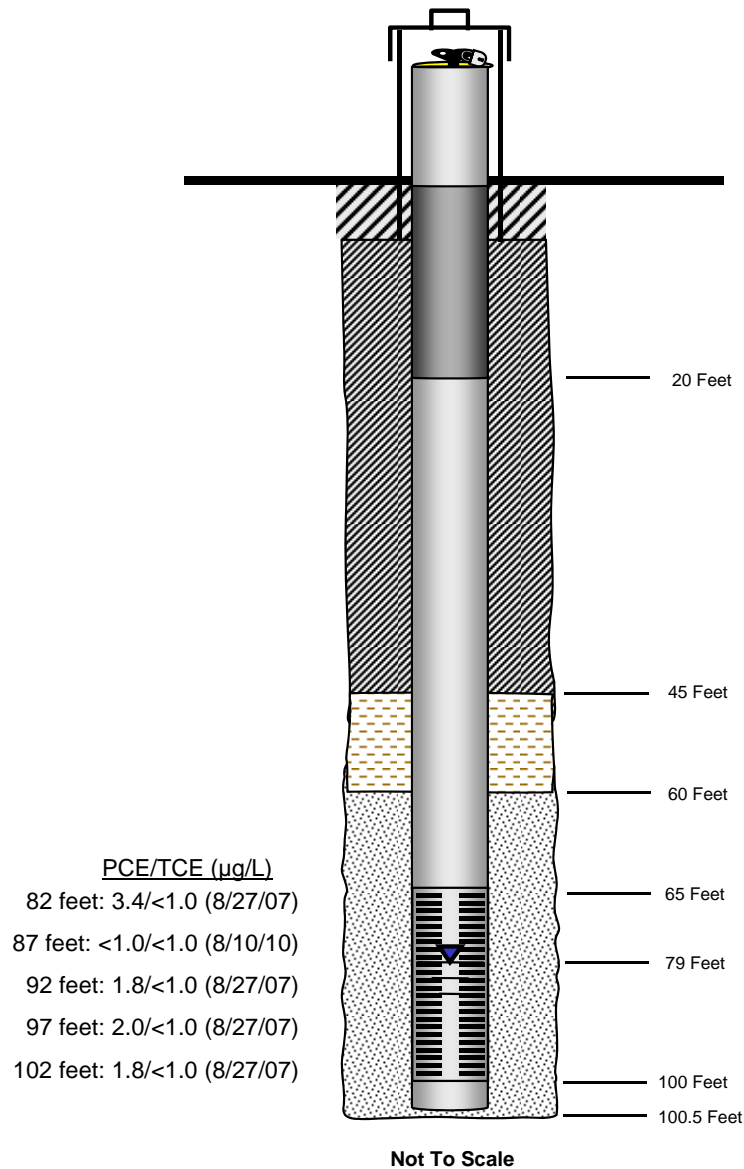
< = analyte not detected above
reporting limit shown.

J = result represents an estimated
value due to detection of the leak
check compound in sample.

APPENDIX F

GROUNDWATER VERTICAL PROFILE ANALYTICAL RESULTS

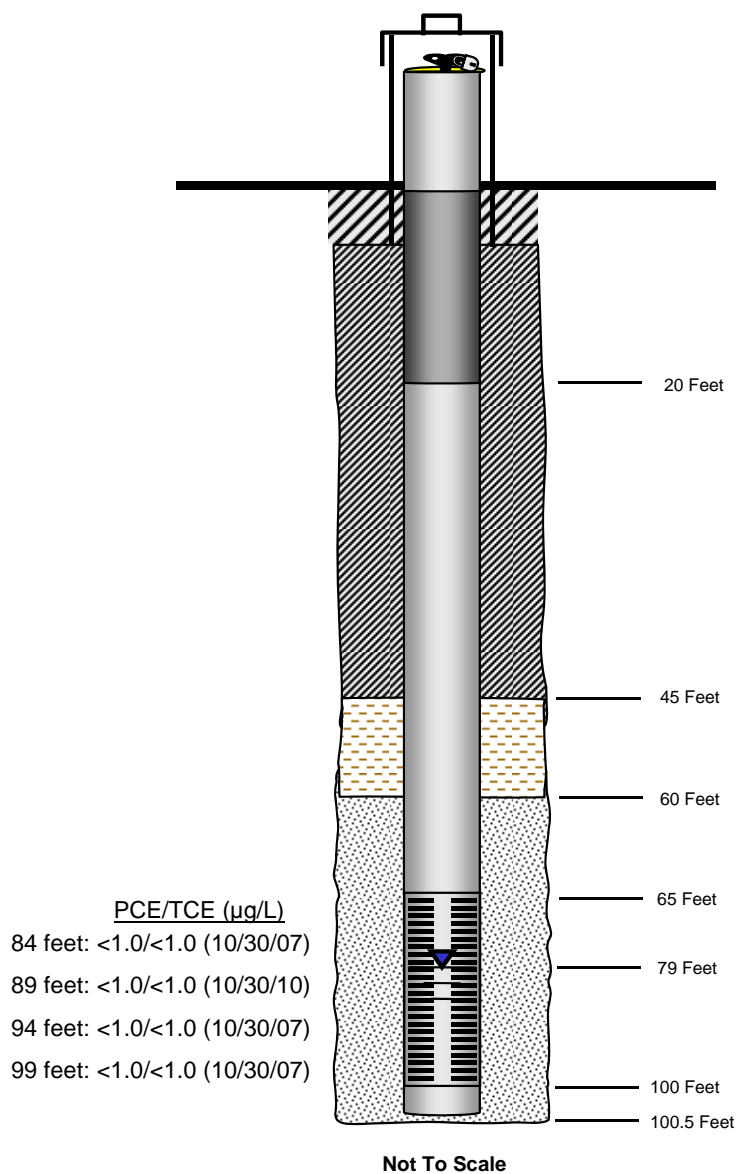
Monitor Well RE101



Notes

Site Coordinates: North 33° 17' 20.3", West 111° 57' 23.5"
Cadastral: D(2-4)4bbd
Measuring Point Elevation: 1170 ft
Date Drilled: 7/17/2007
Drilling Company: Layne Christensen Company
Drilling Rig / Method: Air Hammer

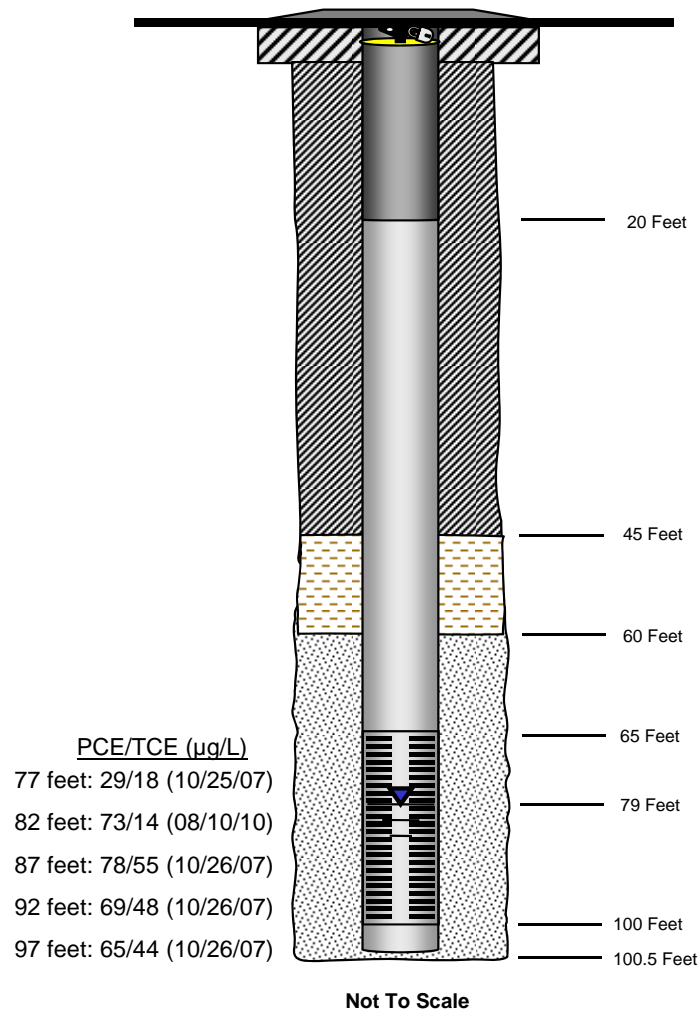
Monitor Well RE102



Notes

Site Coordinates: North 33° 17' 21.9", West 111° 57' 24.8"
 Cadastral: D(2-4)4bbd
 Measuring Point Elevation: 1175 ft
 Date Drilled: 7/16/2007
 Drilling Company: Layne Christensen Company
 Drilling Rig / Method: Air Hammer

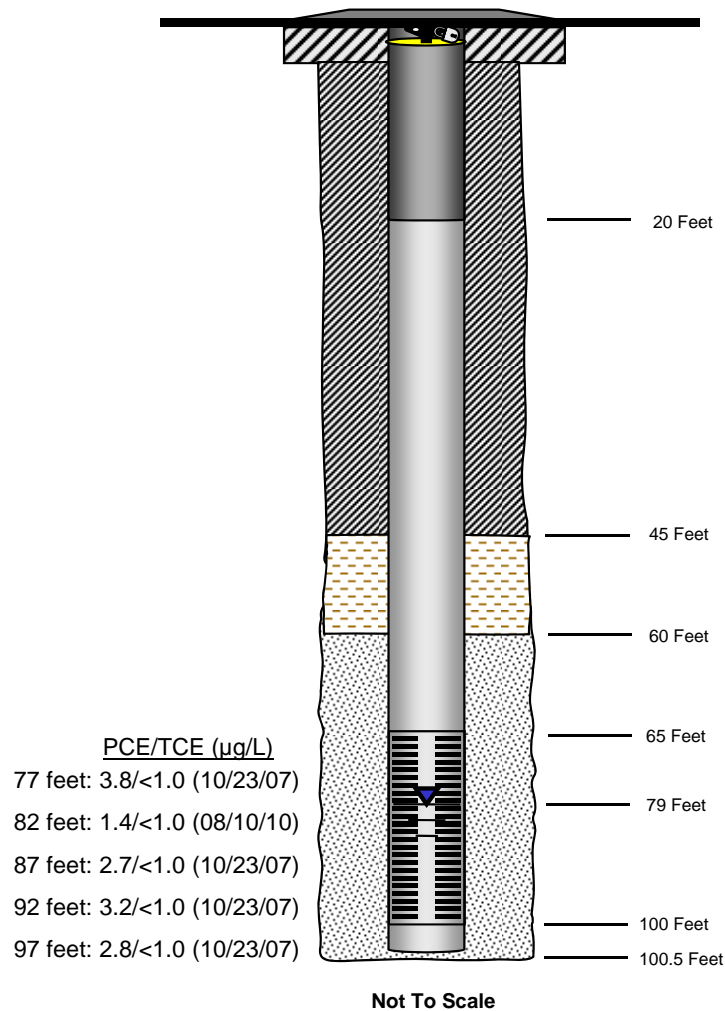
Monitor Well RE103



Notes

Site Coordinates: North 33° 17' 17.7", West 111° 57' 29.7"
Cadastral: D(2-4)4bbd
Measuring Point Elevation: 1215 ft
Date Drilled: 7/20/2007
Drilling Company: Layne Christensen Company
Drilling Rig / Method: Air Hammer

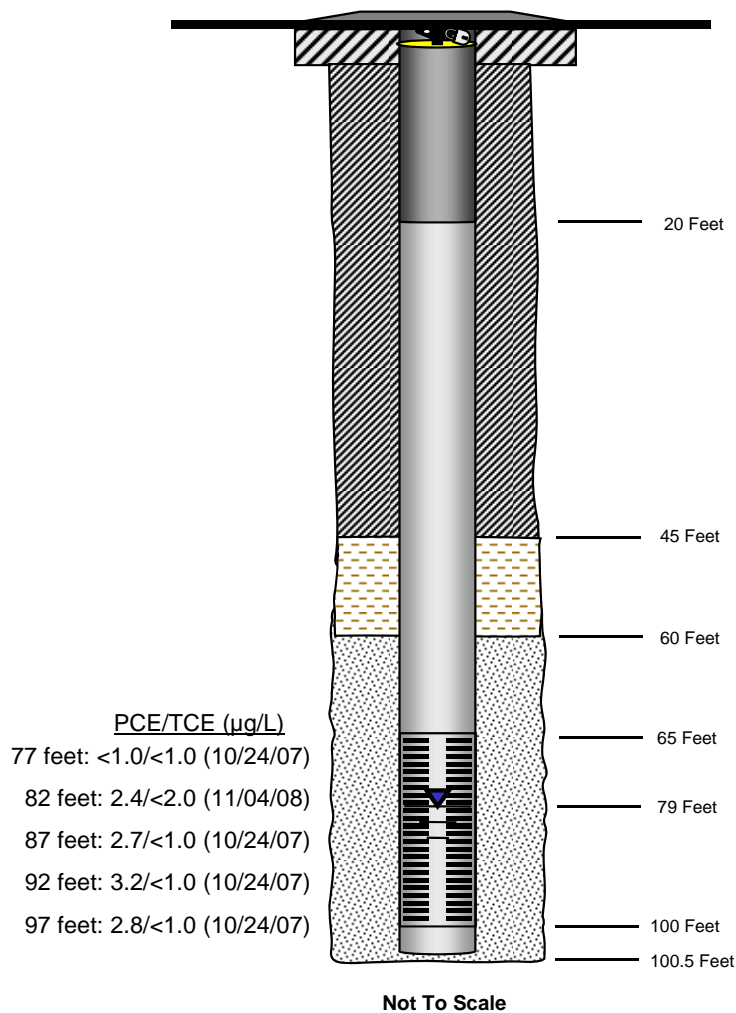
Monitor Well RE104



Notes

Site Coordinates: North 33° 17' 18.8", West 111° 57' 30.1"
Cadastral: D(2-4)4bbd
Measuring Point Elevation: 1219 ft
Date Drilled: 7/23/2007
Drilling Company: Layne Christensen Company
Drilling Rig / Method: Air Hammer

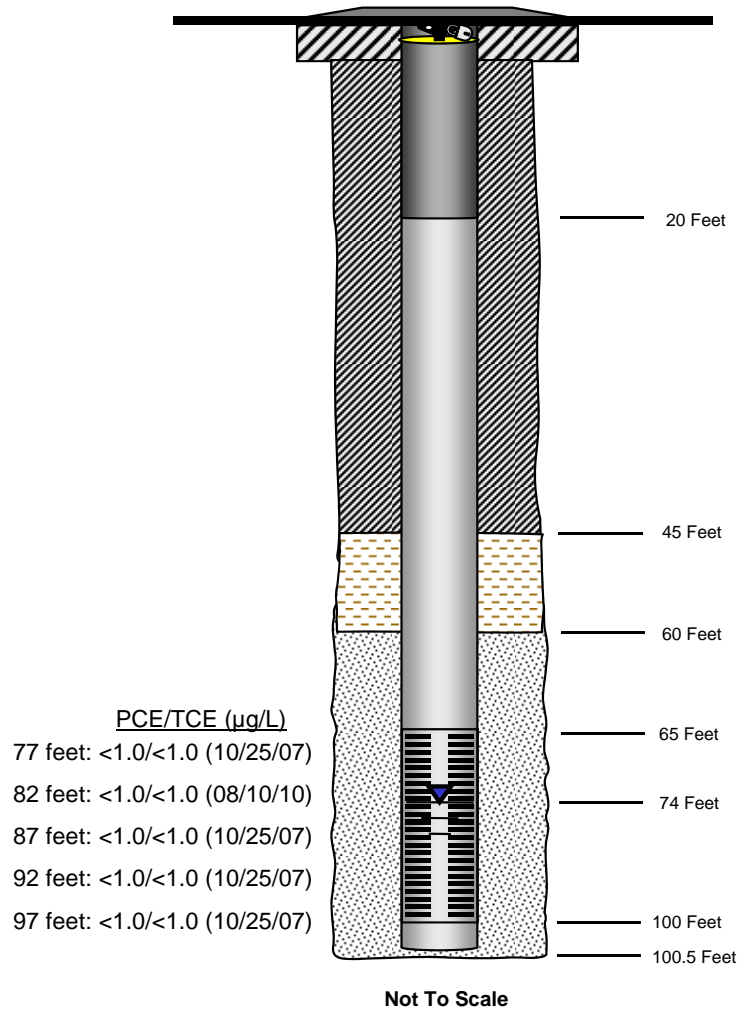
Monitor Well RE105



Notes

Site Coordinates: North 33° 17' 19.9", West 111° 57' 30.0"
 Cadastral: D(2-4)4bbd
 Measuring Point Elevation: 1221 ft
 Date Drilled: 7/18/2007
 Drilling Company: Layne Christensen Company
 Drilling Rig / Method: Air Hammer

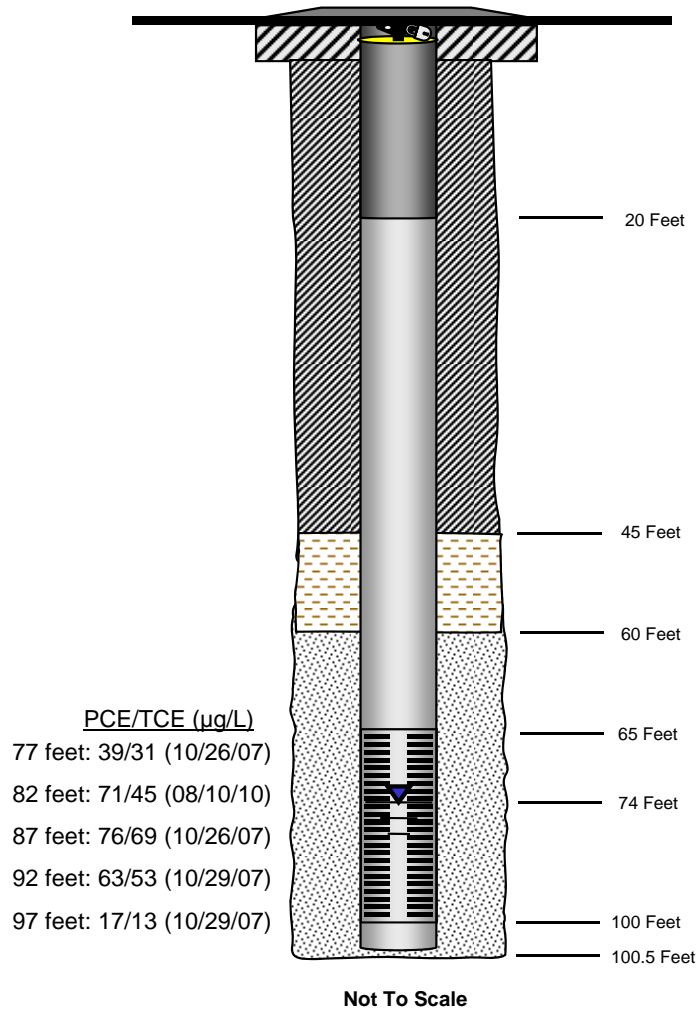
Monitor Well RE106



Notes

Site Coordinates: North 33° 17' 20.6", West 111° 57' 30.4"
Cadastral: D(2-4)4bbd
Measuring Point Elevation: 1217 ft
Date Drilled: 7/19/2007
Drilling Company: Layne Christensen Company
Drilling Rig / Method: Air Hammer

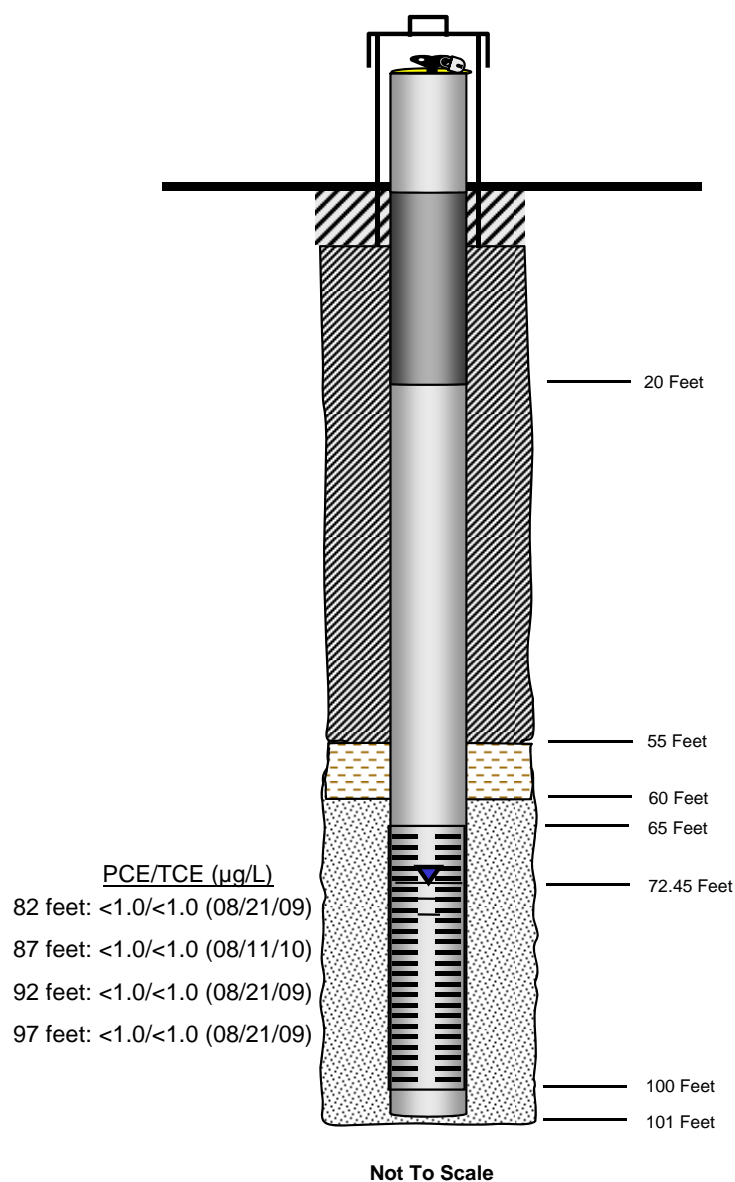
Monitor Well RE107



Notes

Site Coordinates: North 33° 17' 17.8", West 111° 57' 28.5"
Cadastral: D(2-4)4bbd
Measuring Point Elevation: 1216 ft
Date Drilled: 7/24/2007
Drilling Company: Layne Christensen Company
Drilling Rig / Method: Air Hammer

Monitor Well RE108



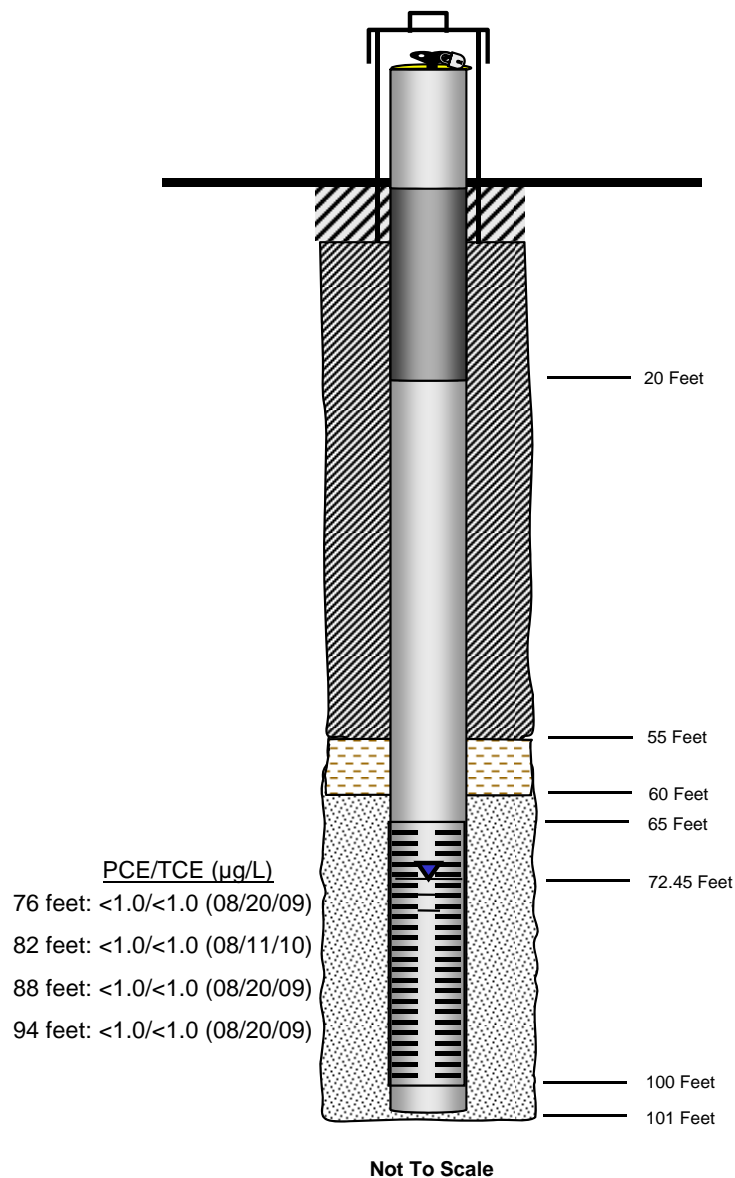
Notes

Site Coordinates: North 33° 17' 16.9", West 111° 57' 20.2"
 Cadastral: D(2-4)4bac
 Measuring Point Elevation: 1158 ft
 Date Drilled: 8/4/2009
 Drilling Company: Layne Christensen Company
 Drilling Rig / Method: Air Hammer

APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL RE108

Conceptual Site Model Report
 Former Romic Environmental Technologies Facility
 Gila River Indian Community, Arizona

Monitor Well RE109



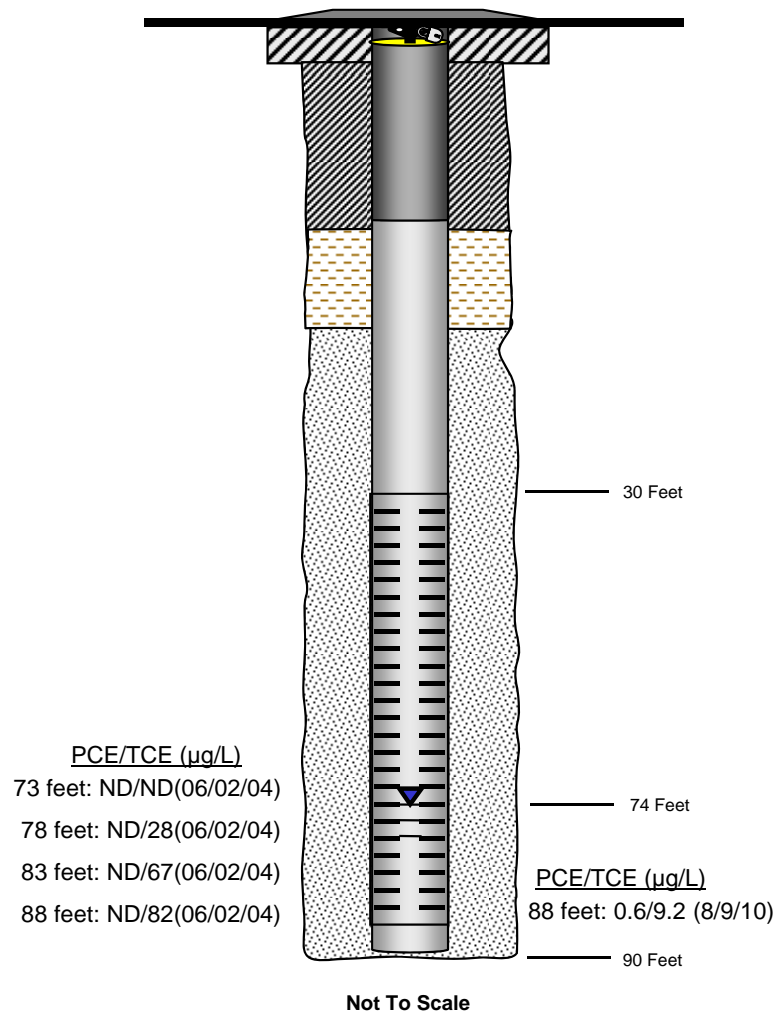
Notes

Site Coordinates: North 33° 17' 30.2", West 111° 57.699'
 Cadastral: D(2-4)4bbc
 Measuring Point Elevation: 1153 ft
 Date Drilled: 8/3/2009
 Drilling Company: Layne Christensen Company
 Drilling Rig / Method: Air Hammer

APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL RE109

Conceptual Site Model Report
 Former Romic Environmental Technologies Facility
 Gila River Indian Community, Arizona

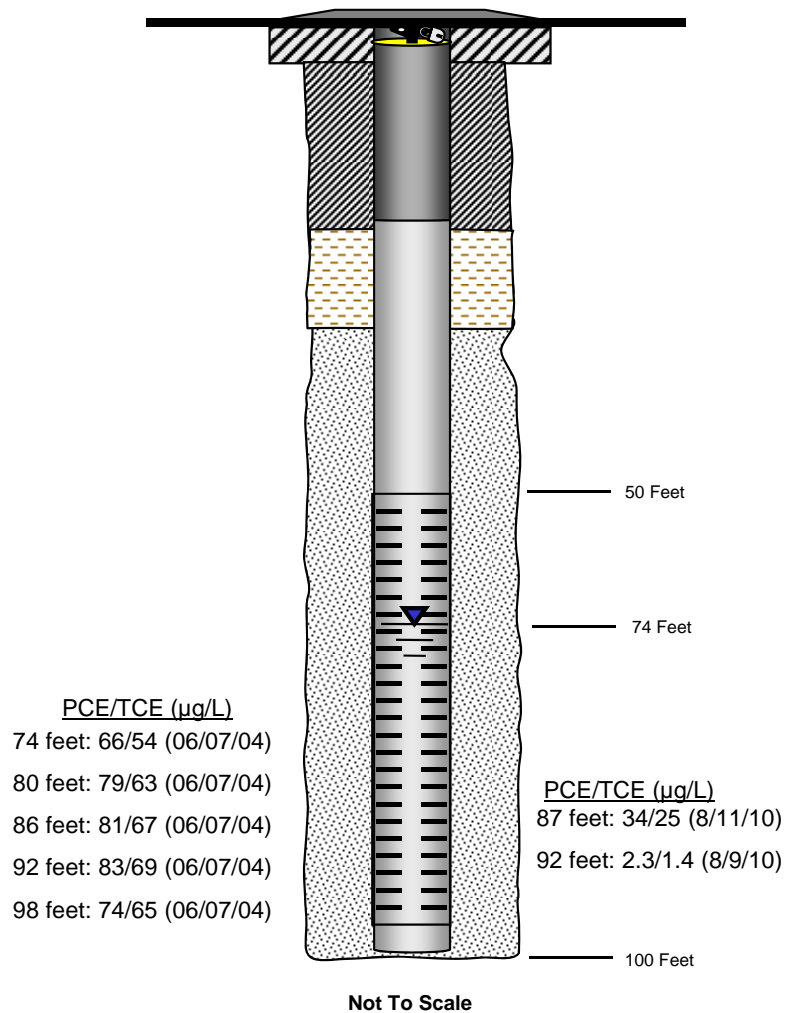
Monitor Well LB-2



APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL LB-2

Conceptual Site Model Report
Former Romic Environmental Technologies Facility
Gila River Indian Community, Arizona

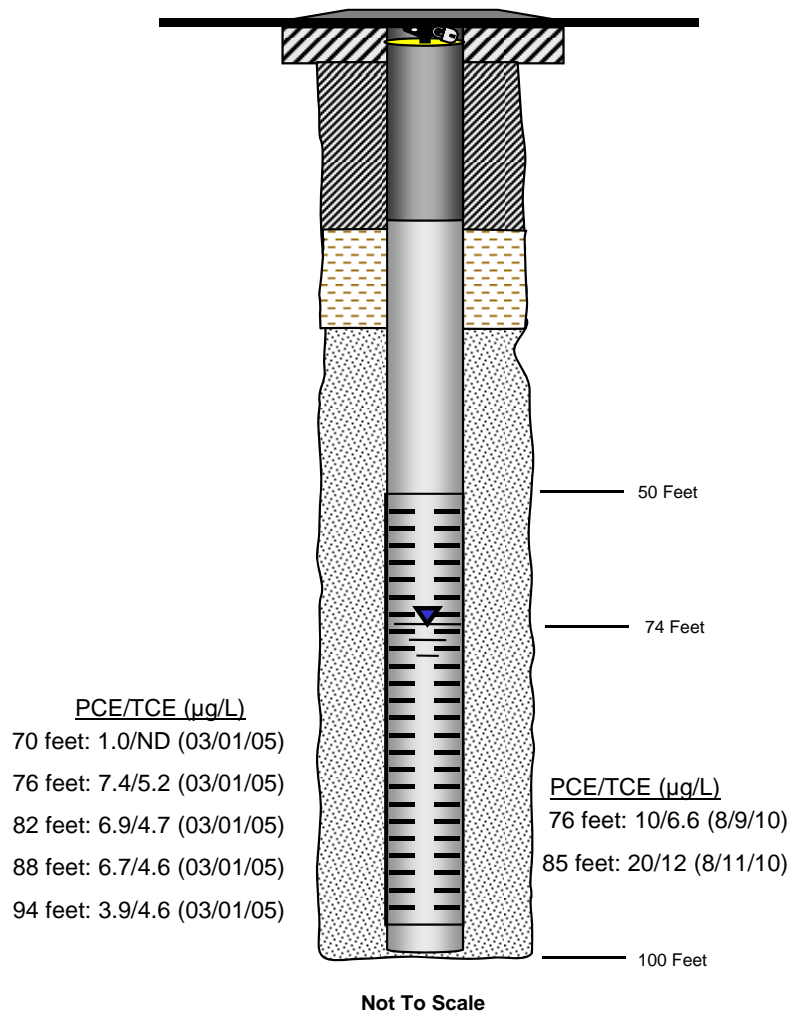
Monitor Well LB-4



APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL LB-4

Conceptual Site Model Report
Former Romic Environmental Technologies Facility
Gila River Indian Community, Arizona

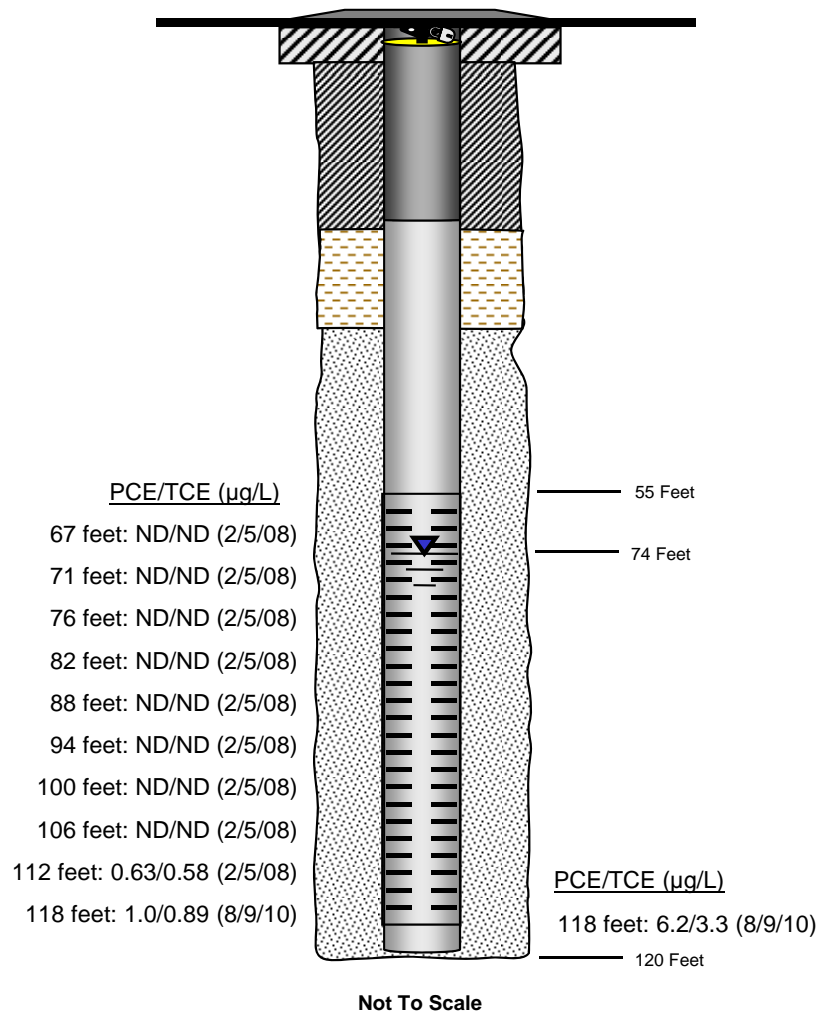
Monitor Well LB-5



APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL LB-5

Conceptual Site Model Report
Former Romic Environmental Technologies Facility
Gila River Indian Community, Arizona

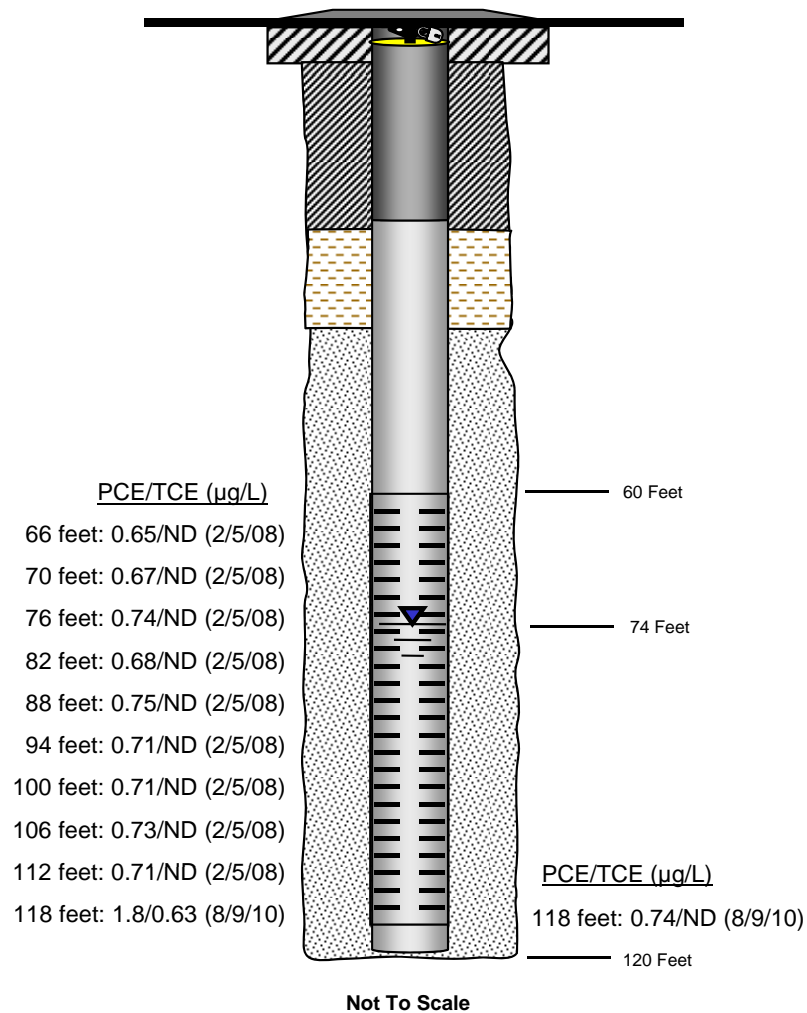
Monitor Well LB-10



APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL LB-10

Conceptual Site Model Report
Former Romic Environmental Technologies Facility
Gila River Indian Community, Arizona

Monitor Well LB-11



APPENDIX F VERTICAL PROFILE RESULTS MONITOR WELL LB-11

Conceptual Site Model Report
Former Romic Environmental Technologies Facility
Gila River Indian Community, Arizona

APPENDIX G

COLUMBIA ANALYTICAL LABORATORY LETTER

April 5, 2007

Bruce Robinson
Gila River Indian Community
PO Box 370
Sacaton, AZ 35247

Re: Acetone contamination in PDBs

Dear Bruce:

A few months ago, we began hearing reports of acetone being seen in samples taken with our passive diffusion bag samplers. The original reports were of such low levels that we were not concerned at first. The levels reported were on the magnitude of 2-3 ppb – hardly a reliable measurement since it's quite a bit below the 8260 method reporting limit of 10 ppb for acetone. However, as time went on, there were reports of acetone hits higher than the reporting limit and more than could be explained as background. We began to investigate where the contamination was coming from. We couldn't find anything in our Rochester facility that could have caused it and quizzed the sampling crew, through you, about what decontamination agent was used. (We have had instances where the field crews were not using laboratory reagent-grade decontamination agents. In some cases the levels of acetone in non-reagent-grade decontamination agents can be as high as 20%.) It wasn't until we found out that, unbeknownst to our Rochester PDB manufacturing folks, a person in the laboratory was washing glassware with acetone in the room where the PDBs are put together.

As you know part of our QC for the bags is to take one bag from each completed 100 PDB lot 3 days after they are assembled and analyze it by EPA Method 8260. This was done for the lot affected; however, the glass cleaning occurred after the first part of the lot has been assembled. The bag used for the QC check must have come from the first part of that lot.

As a result of our investigation, no glass washing is taking place in the room set aside for PDB assembly and all employees have been instructed and trained to ensure that no acetone is introduced into the assembly room or the PDB storage area. The lot that was affected is gone. You should not see acetone above the reporting limit unless there is an issue in the field that introduces it after the PDBs are retrieved from the wells.

Also I wanted to let you know that the water used to fill the PDBs and RPPs is first put through a reverse osmosis/deionized water filtering system to meet the ASTM Type II reagent water standard and is then put through a Millipore system with 2 carbon filters and an organic polisher.

I deeply regret this problem, though we state in all our literature that PDBs are not to be used when ketones are analytes of interest.

Hopefully you can share this letter with your subcontractor or send me their names and addresses and I can send a letter to them also.

Sincerely,
Columbia Analytical Services, Inc.



Dee O'Neill
Business Development

APPENDIX H

CLOSURE INVESTIGATION DATA

Table 1
Soil Analytical Results for RCRA 8 Metals in Background Samples
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	1	2.1	360	0.46	17	9.1	0.044	1.5	0.88
	4	<5	110	<0.25	17	7.7	<0.02	<5	<0.5
	7	<5	110	<0.25	20	9.7	<0.02	<1	<0.5
	10	2.4	78	<0.25	41	10	<0.02	4.5	0.94
02	1	1.8	79	<0.25	13	15	<0.02	<1	<0.5
	4	1.2	140	<0.25	21	12	<0.02	3.2	0.68
	7	<5	75	<0.25	13	7	<0.02	<20	<0.5
	10	<5	78	<0.25	22	9.8	<0.02	<20	<0.5
03	1	1.2	98	0.27	22	12	<0.02	2.7	0.7
	4	<5	120	<0.25	16	9.7	<0.02	<10	<0.5
	7	<5	79	<0.25	28	5.8	<0.02	<10	<0.5
	10	<1	52	<0.25	48	6	<0.02	<1	<0.5
EPA PRG		1.6	190,000	810	1,400	800	28	5,100	5,100
Bkgd mean + 2 SDs		6.92	276.63	0.39	44.99	14.83	0.04	20.62	0.92
AZ background levels		3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	ND - 0.25	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 2
Soil Analytical Results for RCRA 8 Metals in Tank Farm A & B
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
02	0.5		<1	44	<0.25	7	3.1	<1	<0.5
	1		<1	57	<0.25	9.1	4.4	<1	<0.5
	4		<5	190	<0.25	14	9.8	<10	<0.5
	7		<10	110	<0.25	22	8	<20	<0.5
	10		22	39	<0.25	20	6	<20	<0.5
03	0.5		<1	53	0.29	10	4.8	<1	<0.5
	1		<1	65	<0.25	5.2	4.7	<1	<0.5
	4		5.8	43	<0.25	13	6.2	<10	1
	7		7.8	180	<0.25	37	5.5	<1	<0.5
	10		3.4	94	<0.25	34	3.5	<1	<0.5
	20		2.2	39	<0.25	26	4.3	<1	<0.5
	30		8.5	210	<0.25	23	18	<1	<0.5
	40		<5	33	<0.25	12	5.5	<5	<0.5
	40	Duplicate	3.2	120	<0.25	20	6	<1	<0.5
	50		<1	45	<0.25	9.2	2.1	<1	<0.5
	60		3.2	110	<0.25	11	6	<1	<0.5
	70		5	76	<0.25	11	3.2	<1	<0.5
04	0.5		1.3	120	<0.25	6.8	2.8	1.4	<0.5
	0.5	Duplicate	1.4	81	0.42	15	3.3	2.4	<0.5
	1		<1	49	<0.25	7.9	3.5	<1	<0.5
	4		6.6	73	<0.25	18	7.3	<1	<0.5
	4	Duplicate	7.1	56	<0.25	17	7.6	<1	<0.5
	7		4.7	67	<0.25	14	8.7	<1	<0.5
	10		9.9	96	<0.25	24	5.6	<1	<0.5
05	0.5		1.6	68	<0.25	5.9	2.5	<1	<0.5
	1		<1	67	<0.25	9.2	3.5	<1	<0.5
	4		2.8	39	<0.25	16	5.5	<1	<0.5
	7		3	130	<0.25	10	4.3	<1	<0.5
	10		<5	80	<0.25	30	5	<5	<0.5
06	0.5		<1	43	<0.25	7.2	3.4	<1	<0.5
	1		<1	79	<0.25	13	5.6	<1	<0.5
	4		6.3	150	<0.25	16	8.1	<10	<0.5
	7		<5	230	<0.25	12	5.6	<20	<0.5
	7	Duplicate	<5	140	<0.25	8.6	6.3	<40	<0.5
	10		<10	43	<0.25	27	6.2	<5	<0.5
EPA PRG			1.6	190,000	810	1,400	800	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 3
Soil Analytical Results for Semi-volatile Organic Compounds in Tank Farm A & B
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Di-n-butyl phthalate (mg/kg)	Phenol (mg/kg)
02	0.5		<0.33	<0.33
	1		<0.33	2
	4		<0.33	3.4
	7		<0.33	9.7
	10		<0.33	6.5
03	0.5		<0.33	<0.33
	1		<0.33	<0.33
	4		<0.33	<0.33
	7		<0.33	<0.33
	10		<0.33	<0.33
	20		<0.33	<0.33
	30		<0.33	<0.33
	40		<0.33	<0.33
	40	Duplicate	<0.33	<0.33
	50		<0.33	<0.33
	60		<0.33	<0.33
	70		<0.33	<0.33
04	0.5		1.7	<0.33
	0.5	Duplicate	3.3	<3.3
	1		<0.33	6.2
	4		<0.33	<0.33
	4	Duplicate	<0.33	<0.33
	7		<0.33	16
	10		<0.33	13
05	0.5		<0.33	<0.33
	1		<0.33	2.8
	4		<0.33	14
	7		<0.33	9.2
	10		<0.33	14
06	0.5		<0.33	<0.33
	1		<0.33	2.8
	4		<0.33	7.1
	7		<0.33	<0.33
	7	Duplicate	<0.33	<0.33
	10		<0.33	11
EPA PRG			62,000	180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 4
Groundwater Analytical Results for RCRA 8 Metals in Tank Farm A & B
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
03	82	25
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 5
Groundwater Analytical Results for Volatile Organic Compounds in Tank Farm A & B
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	1,1-dichloroethene (µg/L)	2-butanone (MEK) (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)
03	82	4.1	11	8.2	3
EPA MCL		7	NA	5	5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 6
Soil Analytical Results for RCRA 8 Metals in Tank Farm C
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)
01	0.5		<1	48	<0.25	6.7	2.9	<1
	0.5	Duplicate	<1	49	<0.25	7.4	2.8	<1
	1		<1	68	<0.25	16	6.3	<1
	4		4.7	88	<0.25	14	4.3	<1
	7		4.8	91	<0.25	7.4	1.6	<1
	10		7.2	85	<0.25	34	6.7	<1
02	0.5		1.2	58	<0.25	11	3.6	<1
	1		<5	71	0.42	11	6.7	<1
	4		4	120	<0.25	9.2	12	<20
	7		3.3	79	0.44	15	14	22
	10		<5	36	0.44	47	6.7	<5
	20		<1	67	0.57	45	6	<5
	30		2.8	120	1.1	18	12	130
	40		<1	42	0.87	16	6.7	120
	50		<1	77	0.53	18	8	<5
	60		<1	160	0.47	15	6.6	<1
	70		<1	72	0.85	22	6.3	<1
	70	Duplicate	<1	81	0.62	24	6.6	<5
EPA PRG			1.6	190,000	810	1,400	800	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 7
Soil Analytical Results for Semi-volatile Organic Compounds in Tank Farm C
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Di-n-butyl phthalate (mg/kg)
01	0.5		<0.33
	0.5	Duplicate	<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
02	0.5		0.47
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
	20		<0.33
	30		<0.33
	40		<0.33
	50		<0.33
	60		<0.33
	70		<0.33
	70	Duplicate	<0.33
EPA PRG			62,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 8
Groundwater Analytical Results for RCRA 8 Metals in Tank Farm C
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)	Chromium, dissolved (µg/L)
02	82	62	14
EPA MCL		2,000	100

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 9
Groundwater Analytical Results for Volatile Organic Compounds in Tank Farm C
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	1,1,2-trichlorotrifluoroethane (µg/L)	1,1-dichloroethene (µg/L)	Tetrachloroethene (µg/L)
02	82	2.2	1.6	3
EPA MCL		NA	7	5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 10
Soil Analytical Results for RCRA 8 Metals in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	0.5		<1	63	<0.25	11	3.5	<1	<0.5
	1		<1	140	2	23	13	<5	<2.5
	4		8.1	130	<1.2	9.9	6.2	8	<2.5
	7		6.8	110	<1.2	20	3.7	12	<2.5
	10		7.3	36	<0.25	25	3	10	<2.5
02	0.5		<1	44	<0.25	7.4	3.3	<1	<0.5
	1		1.6	98	<0.25	23	9.1	<1	<0.5
	4		5	100	<0.25	15	5.1	<1	<0.5
	7		2.7	150	<0.25	12	1.7	<1	<0.5
	10		3.2	28	<0.25	30	1.2	<1	<0.5
03	0.5		1	46	<0.25	10	3.8	<1	<0.5
	1		<1	91	0.43	16	8.2	2.3	<0.5
	4		<1	110	0.42	17	7	6.7	<0.5
	7		2.1	170	<0.25	17	2.3	<1	<0.5
	10		8	45	<0.25	17	1.5	<1	<0.5
	10	Duplicate	4.3	39	<0.25	15	0.43	<1	<0.5
04	0.5		1.2	50	<0.25	10	3.7	<1	<0.5
	1		<5	550	0.32	23	14	<1	0.58
	4		5.4	77	<0.25	14	7.2	<10	<0.5
	7		<20	170	<0.25	11	4.4	<20	<0.5
	10		<10	46	<0.25	10	<2.5	<20	<0.5
	20		<10	22	<0.25	7.9	2.7	<5	<0.5
	30		<10	120	<0.25	12	8.3	<5	<0.5
	40		3.3	62	<0.25	45	5	<1	<0.5
	50		1.4	400	<0.25	21	6.6	<1	0.69
	60		4	160	<0.25	15	7.4	<1	0.72
	70		5.6	84	<0.25	17	5.3	<1	0.68
	70	Duplicate	7.5	96	<0.25	18	7.2	<1	0.83
EPA PRG			1.6	190,000	810	1,400	800	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 11
Soil Analytical Results for Volatile Organic Compounds in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Acetone (mg/kg)	Methyl tert-butyl ether (MTBE) (mg/kg)	Tetrachloroethene (mg/kg)
01	0.5		<2.2	<0.043	<0.043
	1		<2.7	<0.054	0.39
	4		<2	<0.04	<0.04
	7		<2.5	<0.05	<0.05
	10		2.3	0.68	<0.042
02	0.5		<1.9	<0.038	<0.038
	1		<2.4	<0.047	<0.047
	4		<2.6	<0.053	<0.053
	7		<2.3	<0.046	<0.046
	10		<2.2	<0.044	<0.044
03	0.5		<1.9	<0.038	<0.038
	1		<2.6	<0.051	<0.051
	4		<2.5	<0.05	<0.05
	7		<2.8	<0.056	<0.056
	10		<2.5	<0.05	<0.05
	10	Duplicate	<2.2	<0.044	<0.044
04	0.5		<2	<0.039	<0.039
	1		<2.1	<0.042	0.043
	4		<2	<0.04	<0.04
	7		<2.2	<0.044	<0.044
	10		<2.1	<0.042	<0.042
	20		<2.4	<0.047	<0.047
	30		<2.1	<0.042	<0.042
	40		<2.1	<0.042	<0.042
	50		<2	<0.04	<0.04
	60		<1.8	<0.036	<0.036
	70		<2	<0.039	<0.039
	70	Duplicate	<2.3	<0.046	<0.046
EPA PRG			610,000	190	2.7

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 12
Soil Analytical Results for Semi-volatile Organic Compounds in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	bis(2-ethylhexyl)phthalate (mg/kg)	Di-n-butyl phthalate (mg/kg)	Phenol (mg/kg)
01	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	1
	4		<0.33	<0.33	2.4
	7		<0.33	<0.33	1.5
	10		<0.33	<0.33	2.3
02	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	<0.33
	7		<0.33	<0.33	<0.33
	10		2.3	<0.33	0.7
03	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	<0.33
	7		<0.33	<0.33	<0.33
	10		<0.33	<0.33	<0.33
	10	Duplicate	<0.33	<0.33	<0.33
04	0.5		<0.33	1.4	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	<0.33
	7		<0.33	<0.33	<0.33
	10		<0.33	<0.33	<0.33
	20		<0.33	<0.33	<0.33
	30		<0.33	<0.33	<0.33
	40		<0.33	<0.33	<0.33
	50		<0.33	<0.33	<0.33
	60		<0.33	<0.33	<0.33
	70		<0.33	<0.33	<0.33
	70	Duplicate	<0.33	<0.33	<0.33
EPA PRG			120	62,000	180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 13
Soil Analytical Results for pH in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Samples collected March/April 2009

Boring	Depth (ft bgs)	QC Sample	pH (SU)
01	0.5		11
	1		8.6
	4		8.9
	7		9.2
	10		8
02	0.5		10
	1		8.3
	4		9.1
	7		9.7
	10		9.4
03	0.5		12
	1		8
	4		8.6
	7		9.1
	10		8.4
	10	Duplicate	8.5
04	0.5		12
	1		8.9
	4		9.1
	7		9
	10		8.4
	20		9.3
	30		9.3
	40		9
	50		8.8
	60		9.5
	70		9.2
	70	Duplicate	9.6
EPA PRG			NA

Samples collected June 2009

Boring	Depth (ft bgs)	QC Sample	pH (SU)
01	0.5		8.92
02	0.5		9.35
03	0.5		8.87
04	0.5		9.31
EPA PRG			NA

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 14
Groundwater Analytical Results for RCRA 8 Metals in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
04	82	39
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 15
Groundwater Analytical Results for Volatile Organic Compounds in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Tetrachloroethene (µg/L)
04	82	1.4
EPA MCL		5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 16
Groundwater Analytical Results for pH in Tank Farm D
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	pH (SU)
04	82	8
EPA MCL		NA

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 17
Soil Analytical Results for RCRA 8 Metals in Vacuum Pot/Thin Film Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)
01	0.5		<1	44	<0.25	6.4	3	1.5
	1		<1	51	<0.25	7.3	4.1	<1
	4		6.1	55	<0.25	16	5.9	<1
	7		2.8	84	<0.25	10	2.1	<1
	10		14	120	<0.25	25	7.6	<1
02	0.5		<1	38	<0.25	6	2.8	<1
	1		<5	40	<0.25	5.3	3.5	1.8
	4		<5	60	0.26	8.7	4.2	11
	7		<5	170	0.4	10	7	70
	10		<5	130	0.26	21	2.3	26
	20		<1	38	0.33	32	8.2	<1
	30		2.8	100	<0.25	29	4.4	<1
	30	Duplicate	14	750	<0.25	20	59	<1
	40		4.9	59	<0.25	27	8.5	<1
	50		<1	31	<0.25	15	0.73	<1
	60		5.6	97	<0.25	18	7	<1
	70		<1	35	<0.25	12	1.1	<1
03	0.5		<1	67	0.41	12	4.9	2.8
	1		<1	60	<0.25	12	4.2	<1
	4		3.3	81	<0.25	20	10	<1
	7		2.5	130	<0.25	12	3.6	<1
	10		16	140	<0.25	23	8.9	<1
EPA PRG			1.6	190,000	810	1,400	800	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 18
Soil Analytical Results for Volatile Organic Compounds in Vacuum Pot/Thin Film Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	1,2,3-trimethylbenzene (mg/kg)	1,2,4-trimethylbenzene (mg/kg)	1,3,5-trimethylbenzene (mg/kg)	Tetrachloroethene (mg/kg)
01	0.5		<0.042	<0.042	<0.042	<0.042
	1		<0.048	<0.048	<0.048	<0.048
	4		<0.046	<0.046	<0.046	<0.046
	7		<0.046	<0.046	<0.046	<0.046
	10		<0.04	<0.04	<0.04	<0.04
02	0.5		<0.036	<0.036	<0.036	<0.036
	1		<0.042	<0.042	<0.042	<0.042
	4		<0.049	<0.049	<0.049	<0.049
	7		<0.04	<0.04	<0.04	<0.04
	10		<0.042	<0.042	<0.042	<0.042
	20		<0.049	<0.049	<0.049	<0.049
	30		<0.034	<0.034	<0.034	<0.034
	30	Duplicate	<0.038	<0.038	<0.038	<0.038
	40		<0.042	<0.042	<0.042	<0.042
	50		<0.046	<0.046	<0.046	<0.046
	60		<0.038	<0.038	<0.038	<0.038
	70		<0.053	<0.053	<0.053	<0.053
03	0.5		<0.036	<0.036	<0.036	<0.036
	1		0.049	0.1	0.063	0.18
	4		<0.044	<0.044	<0.044	<0.044
	7		<0.042	<0.042	<0.042	<0.042
	10		<0.044	<0.044	<0.044	<0.044
EPA PRG			NA	280	200	2.7

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 19
Soil Analytical Results for Semi-volatile Organic Compounds in Vacuum Pot/Thin Film Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Phenol (mg/kg)
01	0.5		<0.33
	1		1.7
	4		<0.33
	7		<0.33
	10		<0.33
02	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
	20		<0.33
	30		<0.33
	30	Duplicate	<0.33
	40		<0.33
	50		<0.33
	60		<0.33
	70		<0.33
03	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
EPA PRG			180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 20
Groundwater Analytical Results for RCRA 8 Metals in Vacuum Pot/Thin Film Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
02	84	70
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 21
Groundwater Analytical Results for Volatile Organic Compounds in Vacuum Pot/Thin Film Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	1,2-dichloroethane (µg/L)	Tetrachloroethene (µg/L)
02	84	2	5.5
EPA MCL		5	5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 22
Soil Analytical Results for RCRA 8 Metals in Distillation Column/VOC System
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	0.5		<1	85	2	23	9.2	0.04	2.2	1.3
	1		<1	73	<0.25	18	7.6	<0.02	<1	<0.5
	4		3.6	66	<0.25	15	5.2	<0.02	<1	<0.5
	7		7.3	99	<0.25	12	2.7	<0.02	<1	<0.5
	10		2.4	40	<0.25	44	2.7	<0.02	<1	<0.5
	20		1	61	<0.25	24	4	<0.02	<1	<0.5
	20	Duplicate	<1	73	<0.25	36	5.1	<0.02	<1	<0.5
	30		8.4	120	<0.25	34	6.9	<0.02	<1	<0.5
	40		1.2	48	<0.25	26	4.2	<0.02	<1	<0.5
	50		<1	38	<0.25	16	5.1	<0.02	<5	<0.5
	60		<1	86	<0.25	18	7.7	<0.02	<1	<0.5
	70		1.1	79	<0.25	14	7.4	<0.02	<1	<0.5
02	0.5		<1	80	0.52	16	8.8	<0.02	3.2	<0.5
	1		<2	81	0.51	19	9	<0.02	1.9	<0.5
	4		<1	110	0.47	19	10	<0.02	2.6	<0.5
	7		<1	140	0.25	19	13	<0.02	<5	<0.5
	10		<1	60	0.4	36	8.8	<0.02	1.7	<0.5
	10	Duplicate	<1	85	0.53	36	11	<0.02	2.6	<0.5
EPA PRG			1.6	190,000	810	1,400	800	28	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	0.04	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	ND - 0.25	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 23
Soil Analytical Results for Volatile Organic Compounds in Distillation Column/VOC System
RCRA Clean Closure Investigation
Former Romic Environmental Technologies Corp. Facility
Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	1,2,3-trimethylbenzene (mg/kg)	1,2,4-trimethylbenzene (mg/kg)	1,3,5-trimethylbenzene (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Naphthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	p-Isopropyltoluene (mg/kg)	sec-Butylbenzene (mg/kg)	Tetrachloroethene (mg/kg)	Xylenes, total (mg/kg)
01	0.5		<0.038	<0.038	<0.038	<0.038	<0.038	<0.19	<0.038	<0.038	<0.038	<0.038	<0.038	<0.11
	1		<0.042	<0.042	<0.042	<0.042	<0.042	<0.21	<0.042	<0.042	<0.042	<0.042	<0.042	<0.12
	4		<0.046	<0.046	<0.046	<0.046	<0.046	<0.23	<0.046	<0.046	<0.046	<0.046	0.061	<0.14
	7		<0.043	<0.043	<0.043	<0.043	<0.043	<0.22	<0.043	<0.043	<0.043	<0.043	<0.043	<0.13
	10		<0.044	<0.044	<0.044	<0.044	<0.044	<0.22	<0.044	<0.044	<0.044	<0.044	<0.044	<0.13
	20		<0.052	<0.052	<0.052	<0.052	<0.052	<0.26	<0.052	<0.052	<0.052	<0.052	<0.052	<0.16
	20	Duplicate	<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048	<0.048	<0.048	<0.048	<0.14
	30		<0.042	<0.042	<0.042	<0.042	<0.042	<0.21	<0.042	<0.042	<0.042	<0.042	<0.042	<0.12
	40		<0.042	<0.042	<0.042	<0.042	<0.042	<0.21	<0.042	<0.042	<0.042	<0.042	<0.042	<0.12
	50		0.19	2.4	0.41	0.048	0.35	0.26	0.25	0.97	0.16	0.3	<0.044	0.54
	60		<0.04	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04	<0.04	<0.04	<0.04	<0.04	<0.12
	70		<0.039	<0.039	<0.039	<0.039	<0.039	<0.2	<0.039	<0.039	<0.039	<0.039	<0.039	<0.12
02	0.5		<0.042	<0.042	<0.042	<0.042	<0.042	<0.21	<0.042	<0.042	<0.042	<0.042	<0.042	<0.13
	1		<0.044	<0.044	<0.044	<0.044	<0.044	<0.22	<0.044	<0.044	<0.044	<0.044	<0.044	<0.13
	4		<0.046	<0.046	<0.046	<0.046	<0.046	<0.23	<0.046	<0.046	<0.046	<0.046	0.22	<0.14
	7		<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048	<0.048	<0.048	<0.048	<0.14
	10		<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048	<0.048	<0.048	<0.048	<0.14
	10	Duplicate	<0.048	<0.048	<0.048	<0.048	<0.048	<0.24	<0.048	<0.048	<0.048	<0.048	<0.048	<0.14
EPA PRG			NA	280	200	5.6	29	20	NA	NA	NA	NA	2.7	2,600

NOTES

· ft bgs = feet below ground surface.
· mg/kg = milligrams per kilogram.
· < = analyte not detected above laboratory reporting limit.
· EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
· NA = no standard exists.
· PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
· Detections are displayed in bold.
· Results exceeding the PRG are highlighted in yellow.
· All analytical results not displayed in this table are non-detect (ND).

Table 24
Soil Analytical Results for Semi-volatile Organic Compounds in Distillation Column/VOC System
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	bis(2-ethylhexyl)phthalate (mg/kg)	Phenol (mg/kg)
01	0.5		<0.33	<0.33
	1		<0.33	<0.33
	4		<0.33	<0.33
	7		<0.33	<0.33
	10		<0.33	<0.33
	20		<0.33	<0.33
	20	Duplicate	<0.33	<0.33
	30		<0.33	<0.33
	40		<0.33	<0.33
	50		<0.33	<0.33
	60		<0.33	<0.33
	70		<0.33	<0.33
02	0.5		<0.33	<0.33
	1		<0.33	3.5
	4		<0.33	<0.33
	7		0.55	1.1
	10		<0.33	<0.33
	10	Duplicate	<0.33	<0.33
EPA PRG			120	180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 25
Groundwater Analytical Results for RCRA 8 Metals in Distillation Column/VOC System
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
01	82	55
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 26
Groundwater Analytical Results for Volatile Organic Compounds in Distillation Column/VOC System
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	1,1,2-trichlorotrifluoroethane (µg/L)	1,1-dichloroethene (µg/L)	1,2-dichloroethane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)
01	82	1.7	3.4	4	40	7.8
EPA MCL		NA	7	5	5	5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 27
Soil Analytical Results for RCRA 8 Metals in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	0.5		<5	75	<0.25	12	3.4	<0.02	<1	<0.5
	1		1.7	100	1.1	17	10	0.031	2	<2.5
	4		2	140	1.2	17	12	<0.02	<1	<2.5
	7		7.2	120	<0.5	9	2.8	<0.02	14	<2.5
	10		8	43	0.83	18	8.1	<0.02	10	<2.5
02	0.5		<1	70	<0.25	8.3	4.5	<0.02	1.1	<0.5
	1		1.8	83	1.2	15	9	<0.02	2.9	<5
	1	Duplicate	2.8	240	1.1	15	7.3	<0.02	5.3	<5
	4		4.5	280	0.44	16	7.8	<0.02	2.4	<5
	7		1.9	120	<0.25	17	7	<0.02	<1	<0.5
	10		<1	200	<0.25	32	6.6	<0.02	<2	<0.5
03	0.5		<1	51	<0.25	8.7	2.5	<0.02	<1	<0.5
	1		<1	100	1.4	17	14	<0.02	<1	<5
	4		3	110	0.27	18	8.4	<0.02	<1	0.67
	7		<5	98	<0.25	11	12	<0.02	<20	<0.5
	10		<20	73	<0.25	18	11	<0.02	<20	<0.5
04	0.5		<1	47	<0.25	10	2.3	<0.02	1.4	<0.5
	1		<1	82	1.2	15	9.8	<0.02	<1	<2.5
	1	Duplicate	<1	79	1.2	14	10	<0.02	<1	<2.5
	4		<1	65	1.5	18	10	<0.02	<2	<1
	7		3.5	96	0.8	21	11	<0.02	<1	<5
	10		6.3	92	0.75	21	10	<0.02	4	<2.5
05	0.5		<1	63	<0.25	7.9	2.4	<0.02	<1	<0.5
	1		<5	85	<0.25	14	7.1	<0.02	1.7	<0.5
	4		<5	98	<0.25	13	13	<0.02	<5	<0.5
	7		<5	140	<0.25	9.6	9.8	<0.02	9	<1
	10		<10	34	<0.25	16	9.5	<0.02	42	<1
	20		<5	41	<0.25	16	11	<0.02	28	<1
	30		<5	69	<0.25	21	8.5	<0.02	23	<1
	40		<1	79	<0.25	56	3.6	<0.02	<1	<0.5
	50		6.9	180	<0.25	19	7.7	<0.02	1.1	0.58
	60		8.6	120	<0.25	26	11	<0.02	3.9	0.91
	70		3.5	46	<0.25	8.1	3.3	<0.02	<1	<0.5
	70	Duplicate	5	50	<0.25	8.8	3.4	<0.02	<1	<0.5
06	0.5		<2	47	<0.25	9	2.5	<0.02	<1	<0.5
	1		<1	73	0.32	19	12	<0.02	<1	0.82
	4		5.4	100	<0.25	14	6.4	<0.02	<10	<0.5
	7		<5	96	<0.25	9.4	8.5	<0.02	<50	<0.5
	10		55	44	0.32	25	12	<0.02	<2	<0.5
07	0.5		<2	87	<0.25	7.1	4.3	<0.02	<1	<0.5
	1		<1	45	0.32	12	5.8	<0.02	<1	<0.5

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 27
Soil Analytical Results for RCRA 8 Metals in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
07	4		2.1	100	0.29	11	6	<0.02	3.1	<0.5
	7		3.4	120	0.38	7.9	14	<0.02	11	<1
	10		34	290	0.66	16	17	<0.02	13	<2.5
08	0.5		<1	150	<0.25	6.2	3	<0.02	<1	<0.5
	1		1.7	79	<0.25	16	7.9	<0.02	<1	0.67
	4		<5	130	<0.25	17	10	<0.02	<1	<0.5
	7		<5	95	<0.25	9.2	7.9	<0.02	<50	<0.5
	7	Duplicate	<5	81	<0.25	9.7	8.2	<0.02	<50	<0.5
	10		<5	420	<0.25	11	8.4	<0.02	<20	<0.5
09	0.5		<1	58	<0.25	7.7	3.6	<0.02	<1	<0.5
	1		<1	93	0.56	19	7.5	<0.02	<5	<0.5
	4		3.4	120	0.32	15	5.6	<0.02	<5	<0.5
	7		1.9	170	<0.25	13	5.8	<0.02	<5	<0.5
	10		<1	27	0.73	15	6.4	<0.02	25	<2.5
	20		<1	91	0.59	43	7.8	0.026	<5	<0.5
	30		<1	130	0.62	23	9.6	<0.02	3.1	<0.5
	40		2.5	39	<0.25	9.6	4.7	<0.02	<1	<0.5
	50		1.1	94	<0.25	19	6.3	<0.02	<1	<0.5
	60		5	220	<0.25	16	7.7	<0.02	1.4	0.51
	70		5.2	100	<0.25	14	5.6	<0.02	1.2	0.68
	70	Duplicate	<1	87	<0.25	14	5.2	<0.02	<1	<0.5
10	0.5		<5	56	<0.25	7.5	3.6	<0.02	2.1	<0.5
	1		1.6	76	<0.25	7.7	6.7	<0.02	<1	<0.5
	4		6.8	150	<0.25	15	8.4	<0.02	<1	<0.5
	4	Duplicate	5.7	110	<0.25	14	6.9	<0.02	<10	<0.5
	7		<5	770	<0.25	9.2	6.6	<0.02	<20	<0.5
	10		<1	200	0.69	32	13	<0.02	14	<1
11	0.5		<5	48	<0.25	6.3	3.6	<0.02	2.3	<0.5
	0.5	Duplicate	<1	41	<0.25	6	4.3	<0.02	1.6	<0.5
	1		<1	69	<0.25	9	6.6	<0.02	<1	<0.5
	4		4.6	120	<0.25	14	8.6	<0.02	<5	<0.5
	7		<5	180	<0.25	11	6.4	<0.02	<50	<0.5
	10		<20	180	<0.25	11	6.4	<0.02	<50	<0.5
EPA PRG			1.6	190,000	810	1,400	800	28	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	0.04	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	ND - 0.25	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 28
Soil Analytical Results for Volatile Organic Compounds in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	2-butanone (MEK) (mg/kg)	Tetrachloroethene (mg/kg)
01	0.5		1.9	<0.047
	1		<0.52	<0.052
	4		<0.61	<0.061
	7		<0.48	<0.048
	10		<0.45	<0.045
02	0.5		<0.45	<0.045
	1		<0.45	<0.045
	1	Duplicate	<0.45	<0.045
	4		<0.58	<0.058
	7		<0.45	<0.045
	10		<0.49	<0.049
03	0.5		<0.42	<0.042
	1		<0.47	<0.047
	4		<0.49	<0.049
	7		<0.53	<0.053
	10		<0.46	<0.046
04	0.5		<0.44	<0.044
	1		<0.67	<0.067
	1	Duplicate	<0.56	<0.056
	4		<0.56	<0.056
	7		<0.49	<0.049
	10		<0.51	<0.051
05	0.5		<0.43	<0.043
	1		<0.48	<0.048
	4		<0.4	<0.04
	7		<0.44	<0.044
	10		<0.49	<0.049
	20		<0.39	<0.039
	30		<0.52	<0.052
	40		<0.45	<0.045
	50		<0.01	<0.001
	60		<0.36	<0.036
	70		<0.36	<0.036
	70	Duplicate	<0.35	<0.035
06	0.5		<0.49	<0.049
	1		<0.47	0.077
	4		<0.56	<0.056
	7		<0.45	<0.045
	10		<0.46	<0.046
07	0.5		<0.42	<0.042
	1		<0.48	<0.048

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 28
Soil Analytical Results for Volatile Organic Compounds in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	2-butanone (MEK) (mg/kg)	Tetrachloroethene (mg/kg)
07	4		<0.49	<0.049
	7		<0.56	<0.056
	10		<0.45	<0.045
08	0.5		<0.41	<0.041
	1		<0.53	<0.053
	4		<0.5	<0.05
	7		<0.56	<0.056
	7	Duplicate	<0.44	<0.044
	10		<0.45	<0.045
09	0.5		<0.42	<0.042
	1		<0.45	<0.045
	4		<0.44	<0.044
	7		<0.44	<0.044
	10		<0.42	<0.042
	20		<0.48	<0.048
	30		<0.39	<0.039
	40		<0.44	<0.044
	50		<0.47	<0.047
	60		<0.38	<0.038
	70		<0.38	<0.038
	70	Duplicate	<0.36	<0.036
10	0.5		<0.36	<0.036
	1		<0.55	<0.055
	4		<0.45	<0.045
	4	Duplicate	<0.44	<0.044
	7		<0.39	<0.039
	10		<0.41	<0.041
11	0.5		<0.42	<0.042
	0.5	Duplicate	<0.42	<0.042
	1		<0.5	<0.05
	4		<0.54	<0.054
	7		<0.52	<0.052
	10		<0.48	<0.048
EPA PRG			190,000	2.7

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 29
Soil Analytical Results for Semi-volatile Organic Compounds in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Phenol (mg/kg)
01	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
02	0.5		<0.33
	1		<0.33
	1	Duplicate	<0.33
	4		<0.33
	7		<0.33
	10		<0.33
03	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
04	0.5		<0.33
	1		<0.33
	1	Duplicate	<0.33
	4		<0.33
	7		<0.33
	10		<0.33
05	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
	20		<0.33
	30		<0.33
	40		<0.33
	50		<0.33
	60		<0.33
	70		<0.33
	70	Duplicate	<0.33
06	0.5		<0.33
	1		<0.33
	4		<0.33
	7		1.1
	10		1.3
07	0.5		<0.33
	1		<0.33

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 29
Soil Analytical Results for Semi-volatile Organic Compounds in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Phenol (mg/kg)
07	4		<0.33
	7		<0.33
	10		<0.33
08	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	7	Duplicate	<0.33
	10		<0.33
09	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
	20		<0.33
	30		<0.33
	40		<0.33
	50		<0.33
	60		<0.33
	70		<0.33
	70	Duplicate	<0.33
10	0.5		<0.33
	1		<0.33
	4		<0.33
	4	Duplicate	<0.33
	7		<0.33
	10		<0.33
11	0.5		<0.33
	0.5	Duplicate	<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
EPA PRG			180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 30
Groundwater Analytical Results for RCRA 8 Metals in Drum Storage Building #1
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
05	74	29
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 31
Soil Analytical Results for RCRA 8 Metals in Rail Loading Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	0.5		<1	64	<0.25	5.6	2.4	<1	<0.5
	1		<5	260	0.47	15	13	<10	<0.5
	1	Duplicate	3.6	110	<0.25	14	10	<10	<0.5
	4		5.3	95	<0.25	12	5.1	<5	<0.5
	7		<5	67	<0.25	15	10	<5	<0.5
	10		<10	29	<0.25	12	3.9	<2	<0.5
02	0.5		<1	59	0.53	18	9.3	4	<2.5
	1		3	140	0.31	19	11	<1	0.76
	4		2.1	45	0.48	22	8.4	1	<0.5
	7		<1	98	<0.25	19	3.4	<5	<0.5
	10		<10	110	<0.25	38	5.8	<1	<0.5
03	0.5		<1	84	<0.25	13	5.3	<1	<0.5
	1		<5	120	0.9	28	24	<1	0.78
	4		3.2	63	<0.25	15	7.2	<5	<0.5
	7		<5	89	<0.25	9.8	5.3	160	<0.5
	10		<5	280	<0.25	24	5.2	<2	<0.5
04	0.5		<1	56	<0.25	9.2	5.2	<1	<0.5
	1		1.3	100	<0.25	18	9.8	1.4	<0.5
	4		6.3	86	0.3	18	16	<1	0.62
	4	Duplicate	6.9	110	0.72	26	18	2.2	<0.5
	7		9	360	0.59	18	18	2.2	<0.5
	10		<1	41	0.48	58	6.4	<1	<0.5
05	0.5		1	190	0.68	22	14	5.6	<2.5
	1		4.4	140	<0.25	18	9.6	<10	0.68
	4		<5	150	<0.25	15	15	<20	<0.5
	7		<5	510	<0.25	22	7.8	<20	<0.5
	10		<10	43	<0.25	18	5.6	<5	<0.5
	10	Duplicate	<1	160	0.32	28	14	<1	3.4
	20		9.5	68	<0.25	31	12	<1	0.98
	30		15	170	<0.25	28	17	2.7	1.2
	40		1.3	34	<0.25	18	1.2	<1	<0.5
	50		<1	64	<0.25	22	4.7	<1	<0.5
	60		<1	150	<0.25	19	7.3	<1	<0.5
	70		<1	180	<0.25	11	5.6	<1	<0.5
EPA PRG			1.6	190,000	810	1,400	800	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 32
Soil Analytical Results for Semi-volatile Organic Compounds in Rail Loading Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	bis(2-ethylhexyl)phthalate (mg/kg)	Phenol (mg/kg)
01	0.5		<0.33	<0.33
	1		<0.33	<0.33
	1	Duplicate	<0.33	<0.33
	4		<0.33	2.1
	7		<0.33	0.59
	10		<0.33	0.41
02	0.5		<0.33	<0.33
	1		0.54	0.38
	4		0.41	0.49
	7		<0.33	0.48
	10		<0.33	0.92
03	0.5		<0.33	<0.33
	1		0.62	<0.33
	4		<0.33	4.3
	7		1	0.62
	10		<0.33	9.8
04	0.5		<0.33	<0.33
	1		0.43	<0.33
	4		<0.33	<0.33
	4	Duplicate	<0.33	<0.33
	7		<0.33	5.3
	10		<0.33	3.7
05	0.5		<0.33	<0.33
	1		<0.33	<0.33
	4		<0.33	<0.33
	7		<0.33	<0.33
	10		<0.33	<0.33
	10	Duplicate	<0.33	<0.33
	20		<0.33	<0.33
	30		<0.33	<0.33
	40		<0.33	<0.33
	50		<0.33	<0.33
	60		<0.33	<0.33
	70		<0.33	<0.33
EPA PRG			120	180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 33
Groundwater Analytical Results for RCRA 8 Metals in Rail Loading Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Barium, dissolved (µg/L)	Selenium, dissolved (µg/L)
05	84		43	22
	84	Duplicate	39	<20
EPA MCL			2,000	50

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 34
Groundwater Analytical Results for Volatile Organic Compounds in Rail Loading Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Acetone (µg/L)	Tetrachloroethene (µg/L)
05	84		54	1.3
	84	Duplicate	<50	1.4
EPA MCL			NA	5

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 35
Groundwater Analytical Results for Semi-volatile Organic Compounds in Rail Loading Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	bis(2-ethylhexyl)phthalate (µg/L)
05	84		130
	84	Duplicate	<15
EPA MCL			6

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 36
Soil Analytical Results for RCRA 8 Metals in West Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
01	0.5		1.1	34	0.25	8.4	2.7	1.2	<0.5
	1		1.4	110	<0.25	18	10	<1	0.64
	1	Duplicate	<5	92	<0.25	18	11	<5	0.6
	4		4.4	94	<0.25	17	7.2	<1	0.58
	7		<10	110	<0.25	8.6	3.5	<20	<0.5
	10		<10	44	<0.25	16	2.5	<5	<0.5
02	0.5		<1	47	0.28	8.6	3.2	1.2	<0.5
	1		6.2	120	<0.25	25	8.5	<1	<0.5
	4		3.2	100	<0.25	12	4.3	<1	<0.5
	7		3.3	170	<0.25	24	4.6	<1	<0.5
	10		<1	46	<0.25	58	5.6	<1	<0.5
	20		1.9	78	<0.25	46	9.6	<1	<0.5
	30		<1	44	<0.25	25	3.5	<1	<0.5
	40		1.3	42	<0.25	28	1.8	<1	<0.5
	50		<5	98	<0.25	16	6.9	<5	<0.5
	50	Duplicate	<2	80	<0.25	14	4.7	<2	<0.5
	60		7.5	110	<0.25	17	8.9	<1	0.6
	70		4.2	72	<0.25	19	5.8	<1	0.72
03	0.5		<1	75	0.36	14	3	1.6	<0.5
	1		<1	98	<0.25	11	5.3	<1	0.57
	4		3.3	110	<0.25	16	7.9	<10	<0.5
	7		<5	170	<0.25	17	9.4	<10	<0.5
	10		1.8	45	<0.25	16	2.4	<1	<0.5
04	0.5		1.5	68	0.5	13	3.6	2.2	15
	1		3.3	74	<0.25	19	11	<1	<0.5
	4		6	150	<0.25	14	5.4	<1	<0.5
	7		2.2	170	<0.25	15	2.4	<1	<0.5
	10		<1	22	<0.25	42	4.9	<1	<0.5
EPA PRG			1.6	190,000	810	1,400	800	5,100	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62	0.92
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0	<0.05 - 0.8

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 37
Soil Analytical Results for Volatile Organic Compounds in West Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Tetrachloroethene (mg/kg)
01	0.5		<0.038
	1		<0.042
	1	Duplicate	<0.044
	4		<0.042
	7		<0.045
	10		<0.054
02	0.5		<0.033
	1		0.049
	4		<0.043
	7		<0.04
	10		<0.045
	20		<0.046
	30		<0.041
	40		<0.047
	50		<0.043
	50	Duplicate	<0.044
	60		<0.034
	70		0.067
03	0.5		<0.044
	1		<0.05
	4		<0.043
	7		<0.056
	10		<0.048
04	0.5		<0.035
	1		<0.064
	4		<0.046
	7		<0.057
	10		<0.044
EPA PRG			2.7

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 38
Soil Analytical Results for Semi-volatile Organic Compounds in West Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Phenol (mg/kg)
01	0.5		<0.33
	1		6.5
	1	Duplicate	<0.33
	4		<0.33
	7		4.2
	10		6
02	0.5		<0.33
	1		<0.33
	4		<0.33
	7		<0.33
	10		<0.33
	20		<0.33
	30		<0.33
	40		<0.33
	50		<0.33
	50	Duplicate	<0.33
	60		<0.33
	70		<0.33
03	0.5		<0.33
	1		1.9
	4		5.2
	7		4.2
	10		4.7
04	0.5		<0.33
	1		9.1
	4		13
	7		8.4
	10		20
EPA PRG			180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 39
Groundwater Analytical Results for RCRA 8 Metals in West Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)
02	82	54
EPA MCL		2,000

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 40
Soil Analytical Results for RCRA 8 Metals in East Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)
01	0.5		1.6	59	<0.25	8.4	3.2	<1
	1		<1	78	0.63	25	13	3.7
	4		2.3	120	0.44	18	9.2	2.4
	7		3.4	110	<0.25	8.5	2.6	<1
	10		2.8	27	<0.25	25	5.5	<1
02	0.5		<1	77	0.32	9.2	8.1	1.1
	1		3.1	210	<0.25	27	9.6	<1
	4		3.7	98	0.26	8.7	2.7	<1
	7		3.2	170	<0.25	14	<0.25	<1
	10		<1	39	<0.25	46	7.5	<1
	20		1.9	110	<0.25	54	9.5	<1
	20	Duplicate	2.7	830	<0.25	14	3	<1
	30		3.5	73	<0.25	22	4.5	<1
	50		1.6	590	<0.25	21	4.6	<1
	60		1	140	<0.25	14	5.4	<1
03	0.5		<1	74	<0.25	9.1	3.9	<1
	1		5.6	210	<0.25	19	8.7	<1
	4		6.3	56	<0.25	18	7.2	<1
	7		3.3	130	<0.25	12	4.4	<1
	7	Duplicate	4.2	120	<0.25	14	4	<1
	10		4.2	37	<0.25	37	3.7	<1
EPA PRG			1.6	190,000	810	1,400	800	5,100
Bkgd mean + 2 SDs			6.92	276.63	0.39	44.99	14.83	20.62
AZ background levels			3.1 - 24	72.6 - 230	ND - 1.7	5.4 - 34	ND - 24.5	<0.4 - 1.0

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Bkgd mean + 2 SDs = mean concentration in background soil samples plus two standard deviations; this value is calculated using the reporting limit for non-detect concentrations.
- AZ background levels = typical background concentrations obtained from "Evaluation of Background Metals Concentrations in Arizona Soils", prepared for ADEQ by The Earth Technology Corporation, June 1991.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 41
Soil Analytical Results for Volatile Organic Compounds in East Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	1,1-dichloroethene (mg/kg)	1,2,3-trichlorobenzene (mg/kg)	2-butanone (MEK) (mg/kg)	Tetrachloroethene (mg/kg)
01	0.5		<0.035	<0.035	<0.35	<0.035
	1		<0.053	<0.053	<0.53	<0.053
	4		<0.052	<0.052	<0.52	<0.052
	7		<0.048	<0.048	<0.48	<0.048
	10		<0.047	<0.047	<0.47	<0.047
02	0.5		<0.045	<0.045	<0.45	<0.045
	1		<0.046	<0.046	<0.46	<0.046
	4		<0.05	<0.05	3.3	<0.05
	7		<0.038	<0.038	<0.38	<0.038
	10		<0.048	<0.048	<0.48	<0.048
	20		<0.045	<0.045	<0.45	<0.045
	20	Duplicate	<0.046	<0.046	<0.46	<0.046
	30		<0.038	<0.038	<0.38	<0.038
	50		<0.053	<0.053	<0.53	<0.053
	60		<0.038	<0.038	<0.38	<0.038
	70		0.053	<0.038	<0.38	0.12
03	0.5		<0.037	0.041	<0.37	<0.037
	1		<0.05	<0.05	<0.5	<0.05
	4		<0.044	<0.044	<0.44	<0.044
	7		<0.052	<0.052	<0.52	<0.052
	7	Duplicate	<0.06	<0.06	<0.6	<0.06
	10		<0.045	<0.045	<0.45	<0.045
EPA PRG			1,100	NA	190,000	2.7

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 42
Soil Analytical Results for Semi-volatile Organic Compounds in East Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	QC Sample	bis(2-ethylhexyl)phthalate (mg/kg)	Di-n-butyl phthalate (mg/kg)	Phenol (mg/kg)
01	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	0.51
	7		<0.33	<0.33	0.64
	10		0.57	0.38	0.65
02	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	<0.33
	7		<0.33	<0.33	<0.33
	10		<0.33	<0.33	<0.33
	20		<0.33	<0.33	<0.33
	20	Duplicate	<0.33	<0.33	<0.33
	30		<0.33	<0.33	<0.33
	50		<0.33	<0.33	<0.33
	60		<0.33	<0.33	<0.33
	70		<0.33	<0.33	<0.33
03	0.5		<0.33	<0.33	<0.33
	1		<0.33	<0.33	<0.33
	4		<0.33	<0.33	0.55
	7		<0.33	<0.33	<0.33
	7	Duplicate	<0.33	<0.33	<0.33
	10		0.78	<0.33	0.58
EPA PRG			120	62,000	180,000

NOTES

- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- < = analyte not detected above laboratory reporting limit.
- EPA PRG = Environmental Protection Agency Preliminary Remediation Goal.
- NA = no standard exists.
- PRG for chromium is the standard for chromium VI; no PRG for total chromium is published.
- Detections are displayed in bold.
- Results exceeding the PRG are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 43
Groundwater Analytical Results for RCRA 8 Metals in East Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	Barium, dissolved (µg/L)	Selenium, dissolved (µg/L)
02	83	38	23
EPA MCL		2,000	50

NOTES

- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

Table 44
Groundwater Analytical Results for Volatile Organic Compounds in East Bay Processing Area
 RCRA Clean Closure Investigation
 Former Romic Environmental Technologies Corp. Facility
 Gila River Indian Community, AZ

Boring	Depth (ft bgs)	1,1-dichloroethene (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)
02	83	11	35	9.4
EPA MCL		7	5	5

NOTES

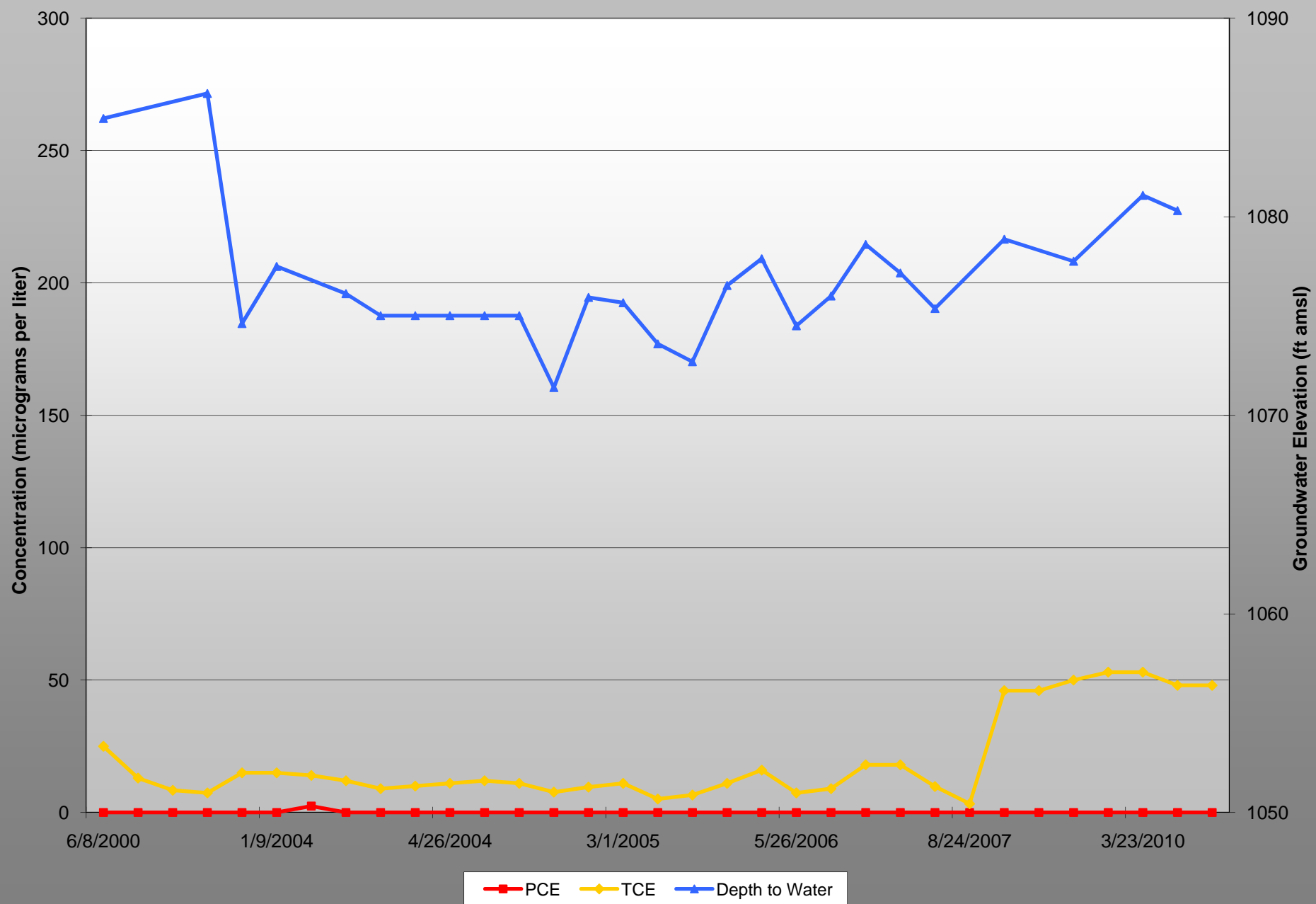
- ft bgs = feet below ground surface.
- µg/L = micrograms per liter.
- < = analyte not detected above laboratory reporting limit.
- EPA MCL = Environmental Protection Agency Maximum Contaminant Level.
- NA = no standard exists.
- Detections are displayed in bold.
- Results exceeding the MCL are highlighted in yellow.
- All analytical results not displayed in this table are non-detect (ND).

APPENDIX I

CONCENTRATION TIME SERIES GRAPHS

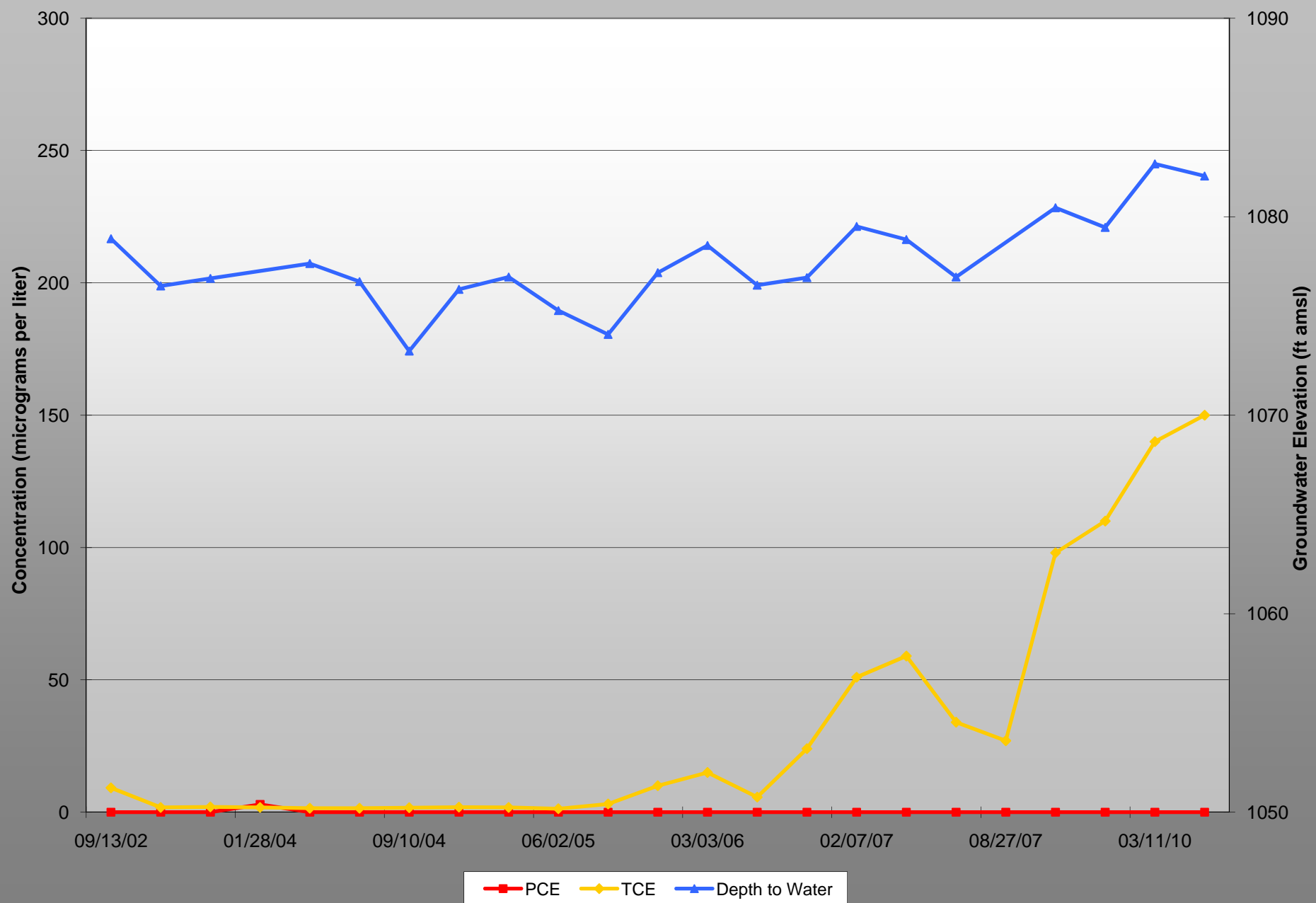
GFW Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



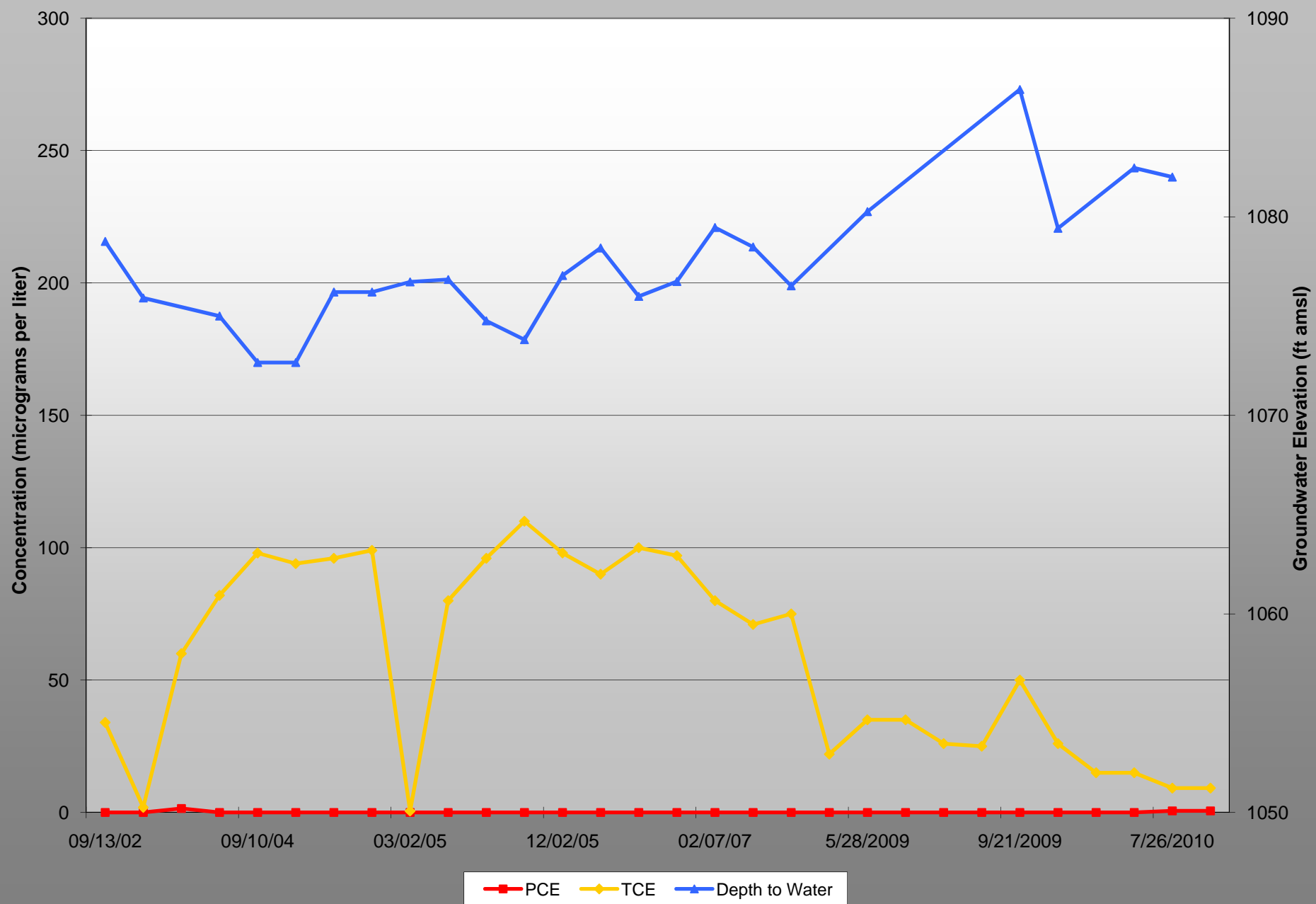
LB-1 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



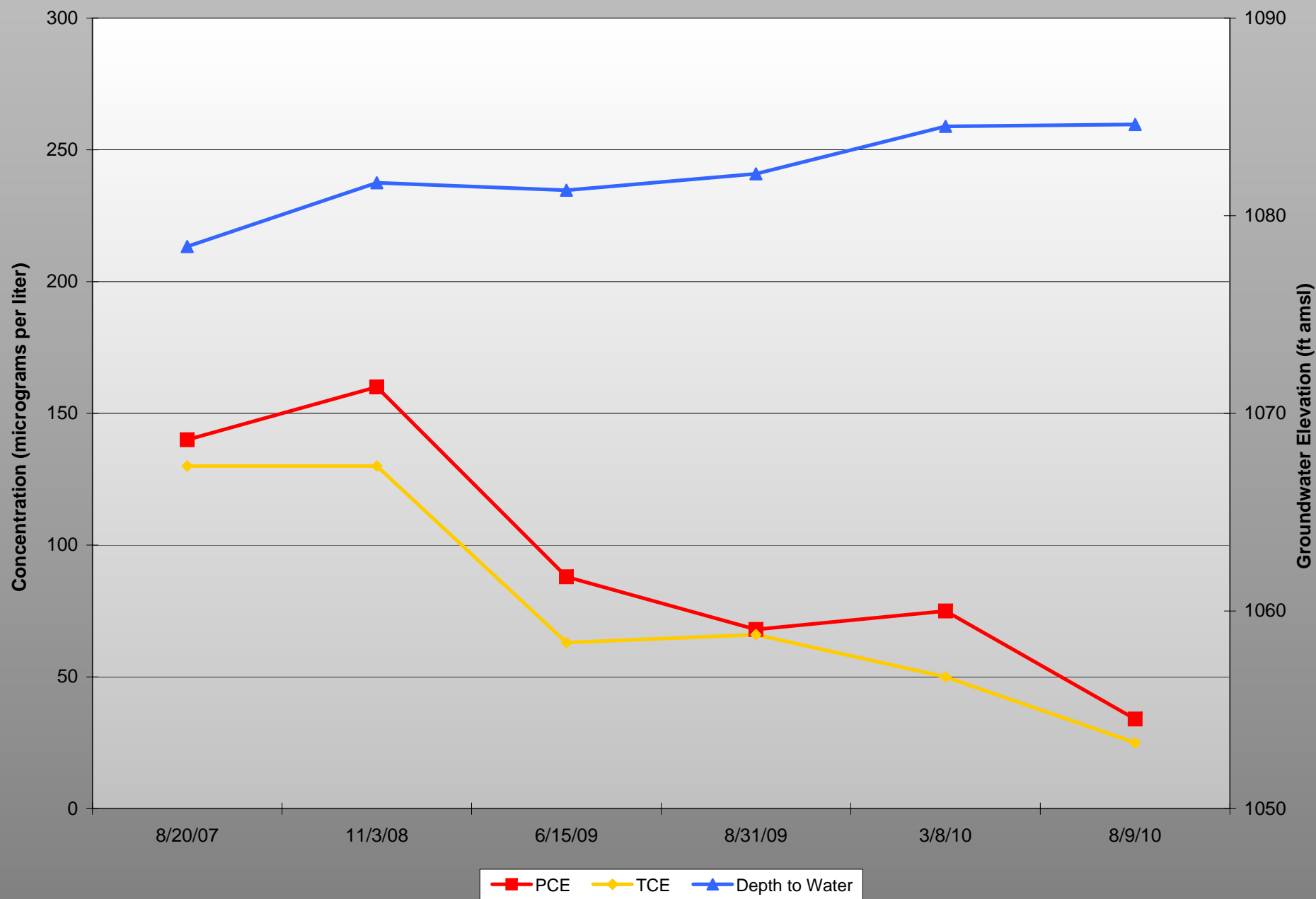
LB-2 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



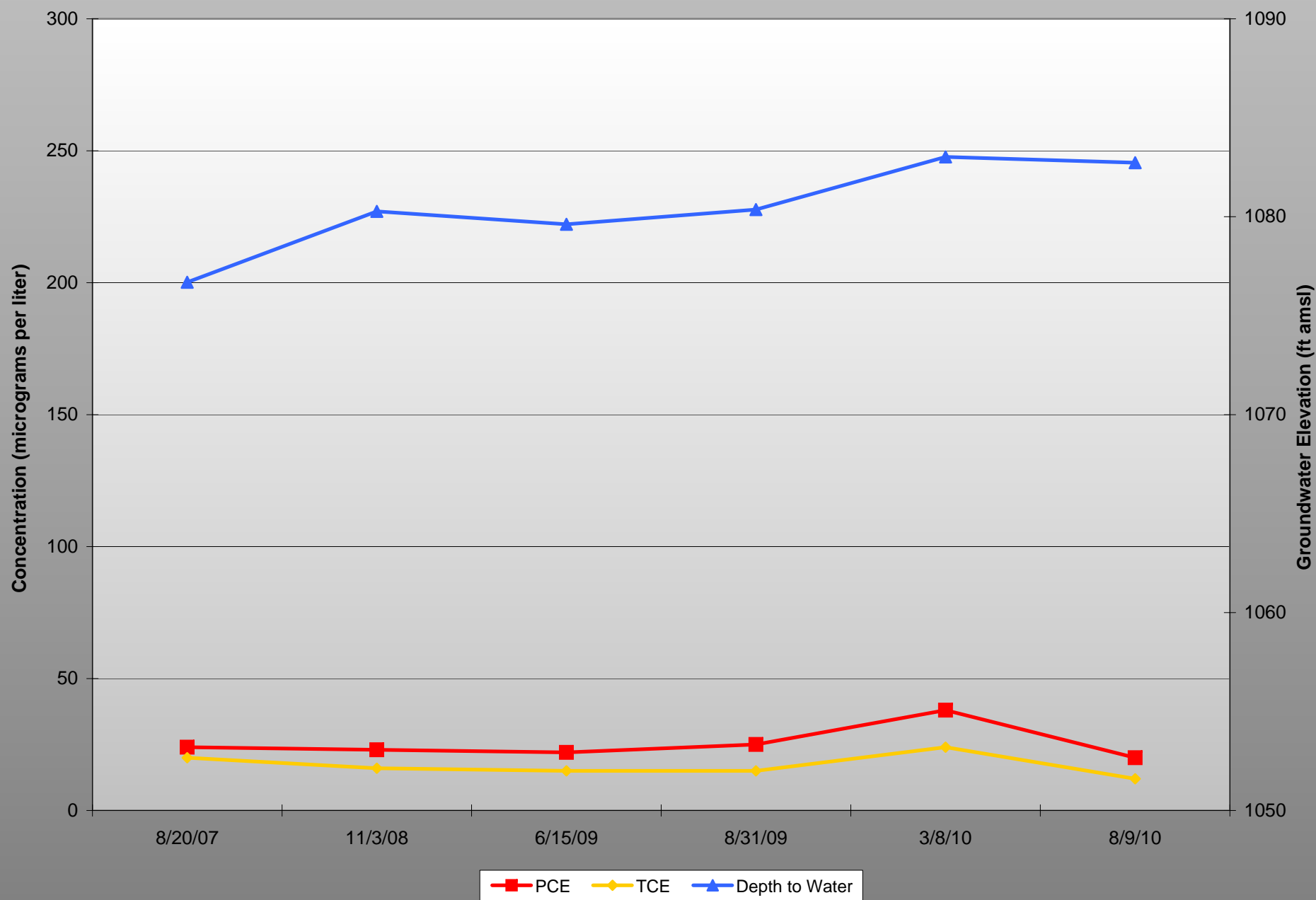
LB-4 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility

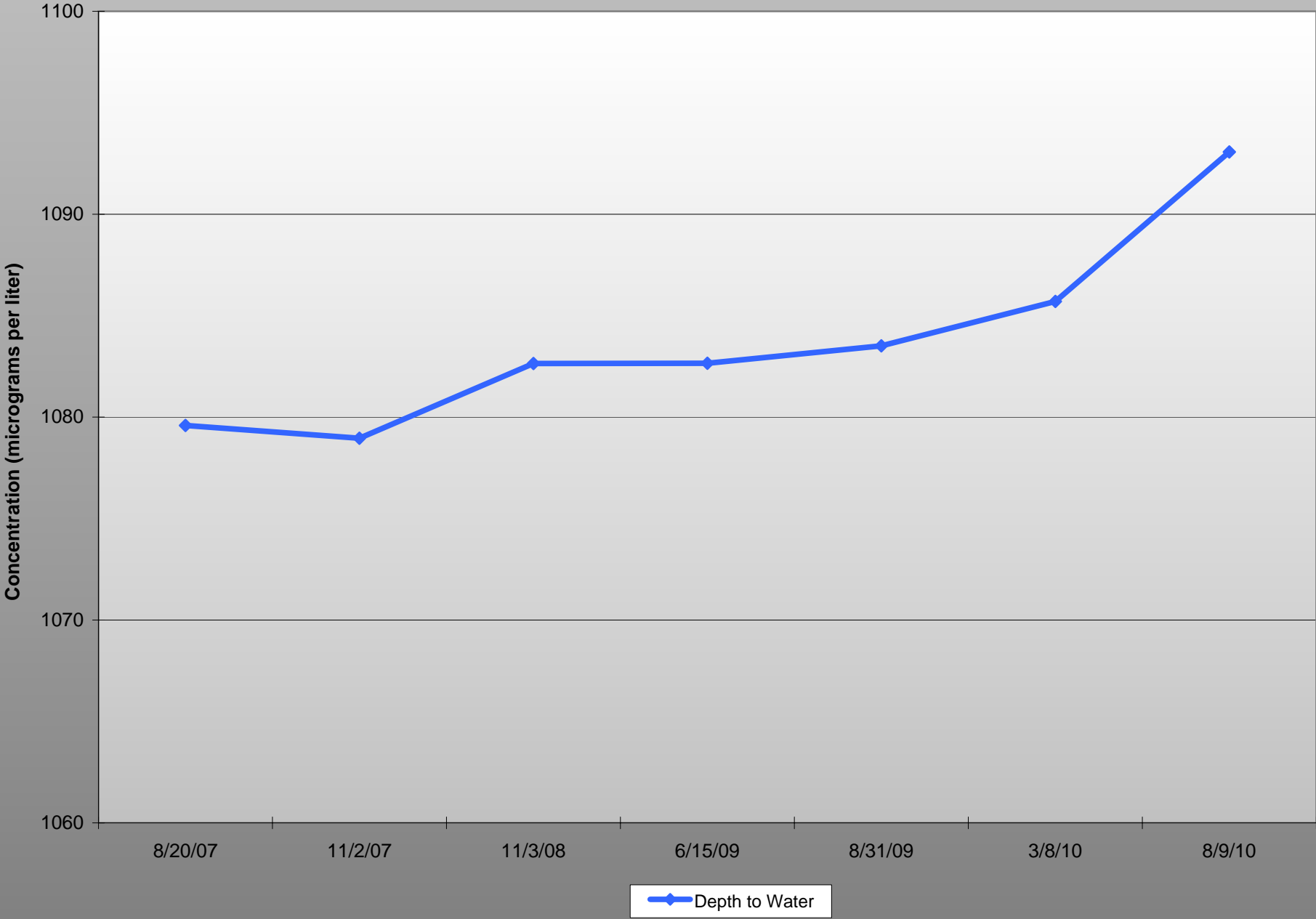


LB-5 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility

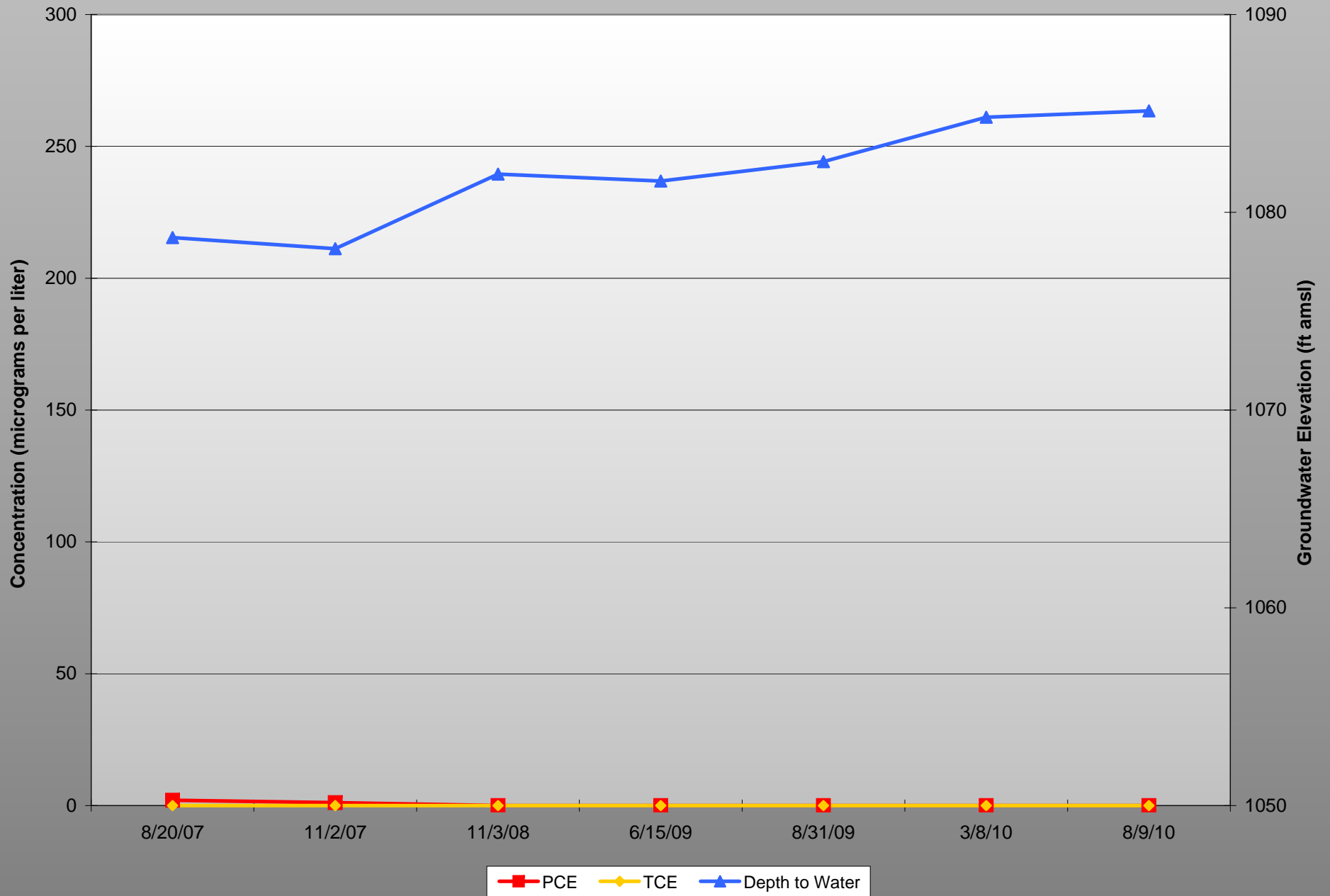


LB-6 Water Level Data
Former Romic Environmental Technology, Inc. Facility



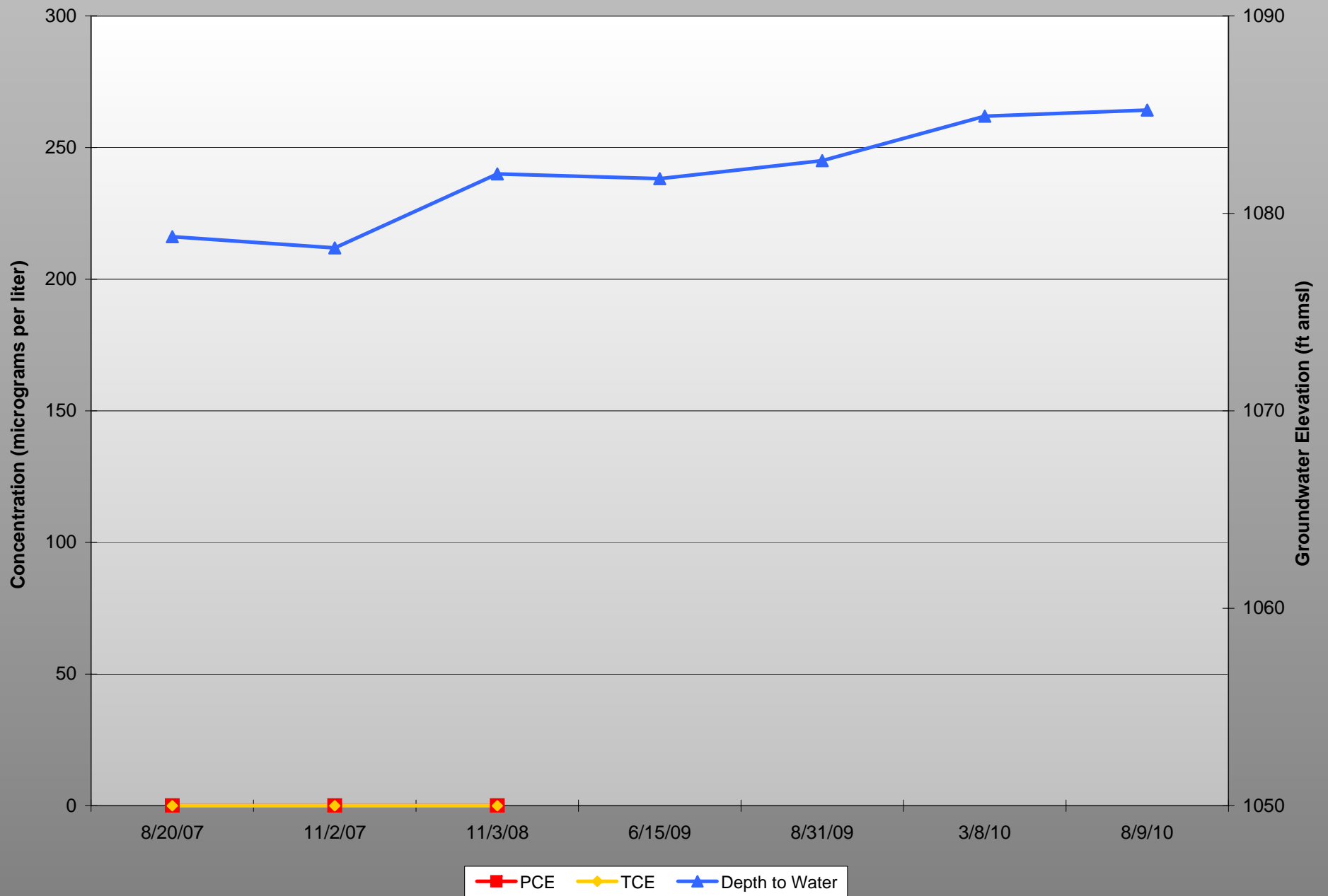
RE101 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



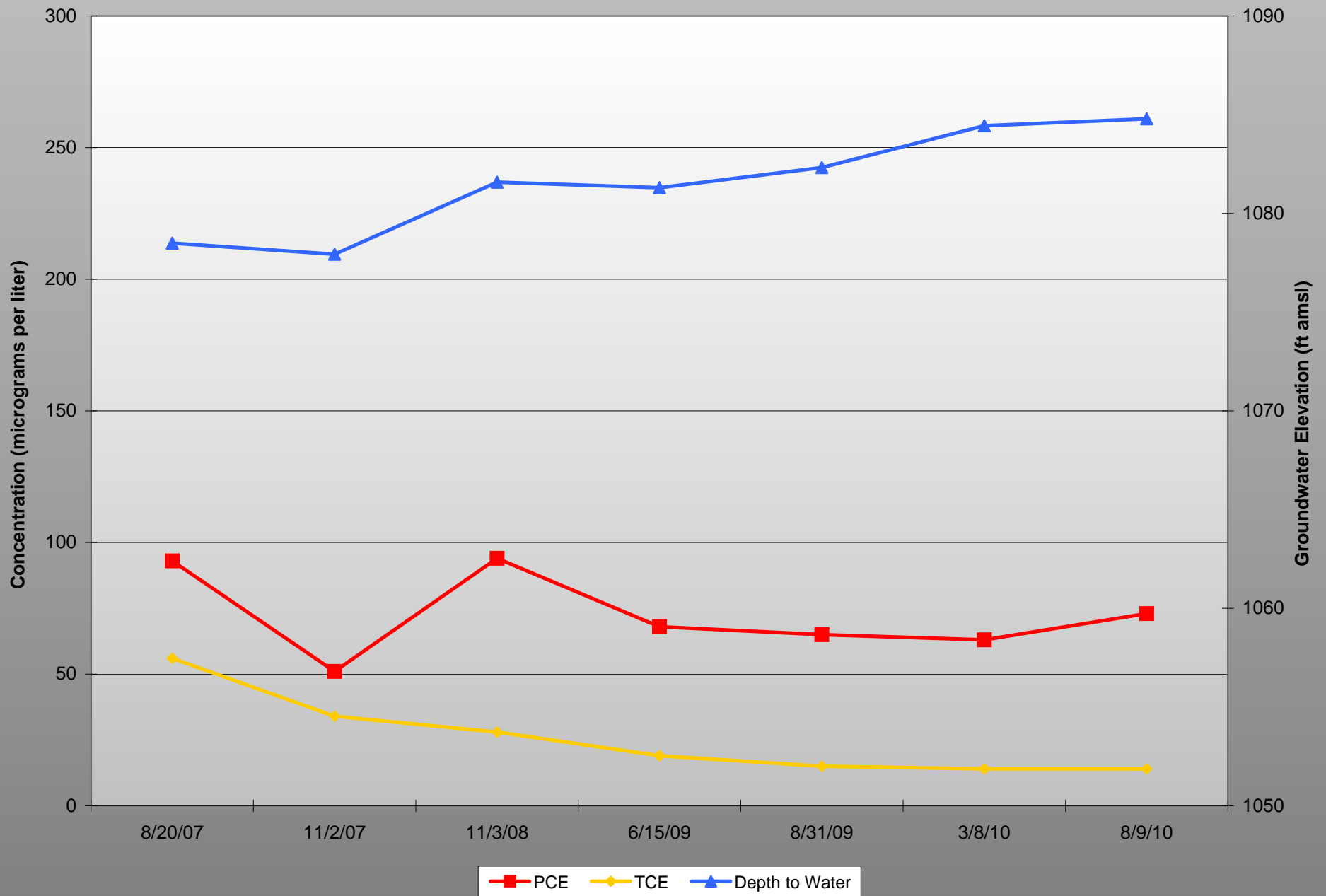
RE102 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



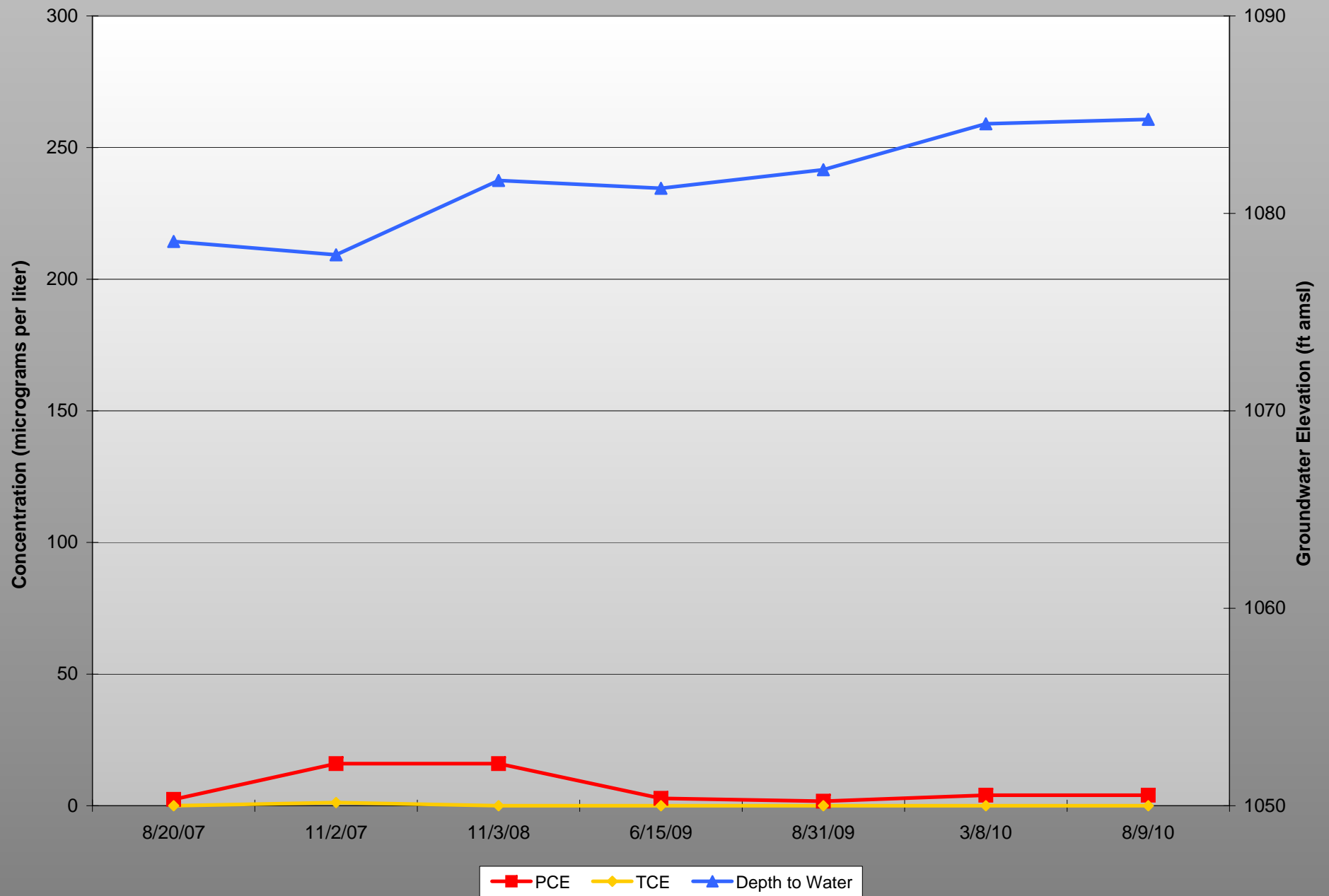
RE103 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



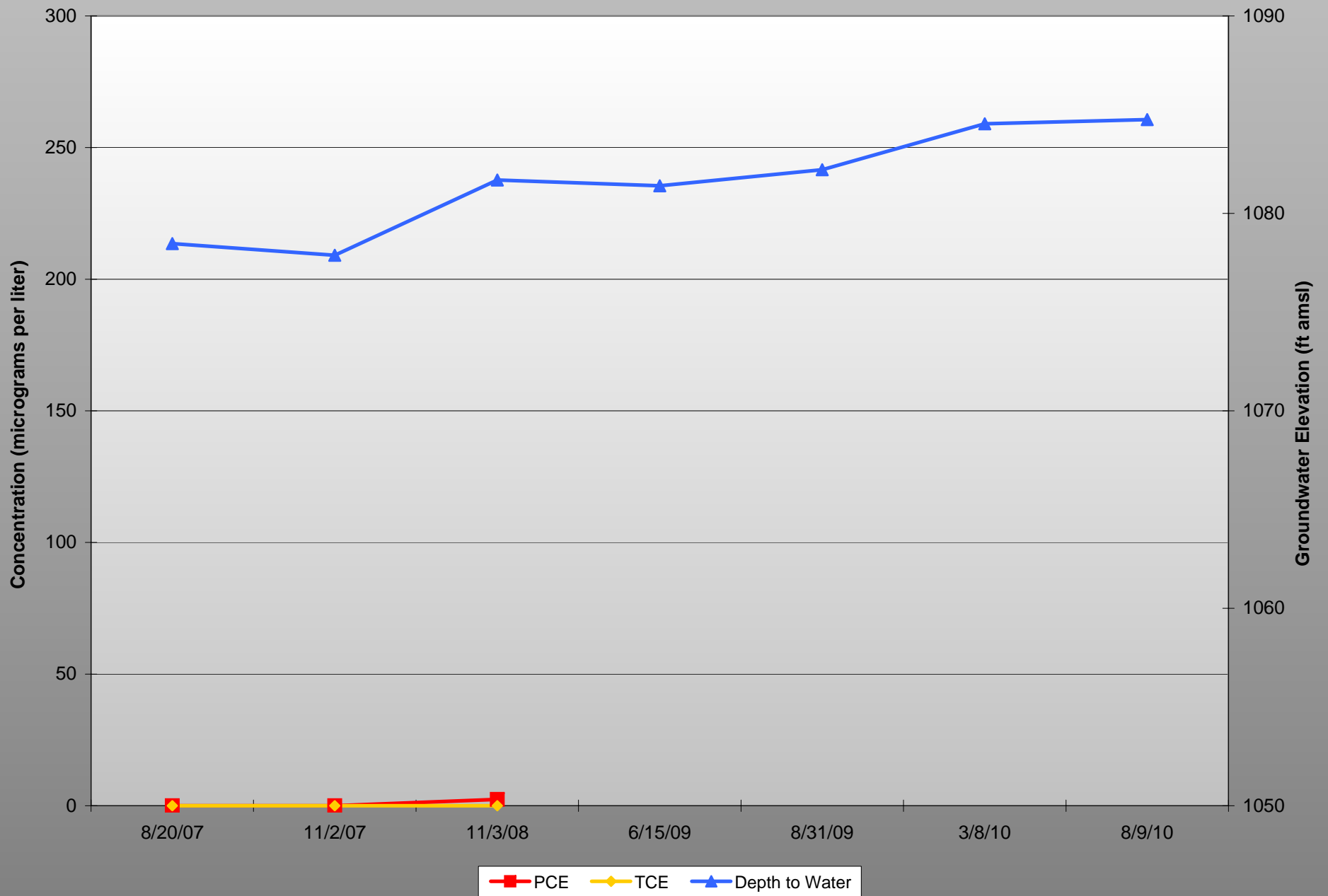
RE104 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



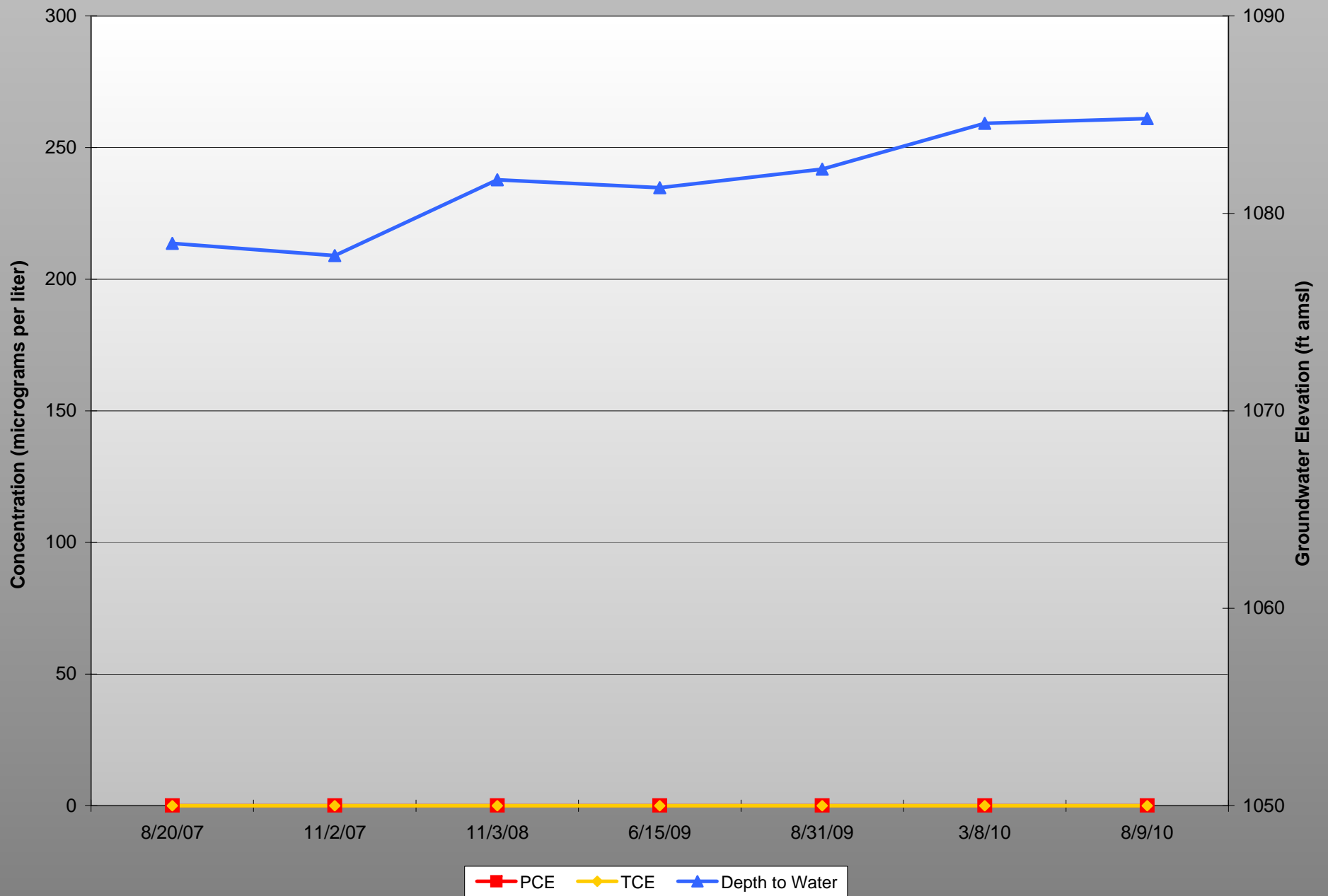
RE105 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



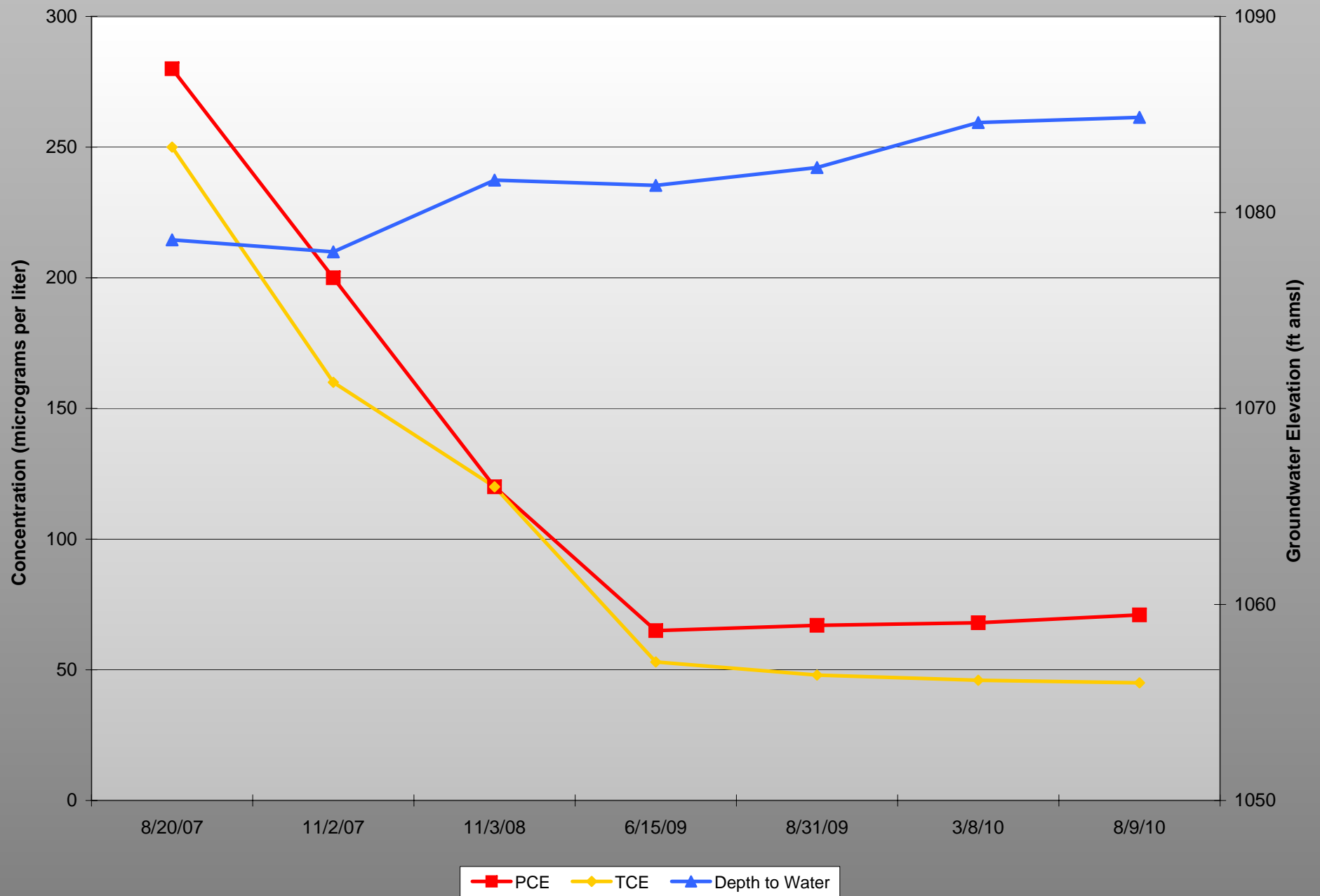
RE106 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



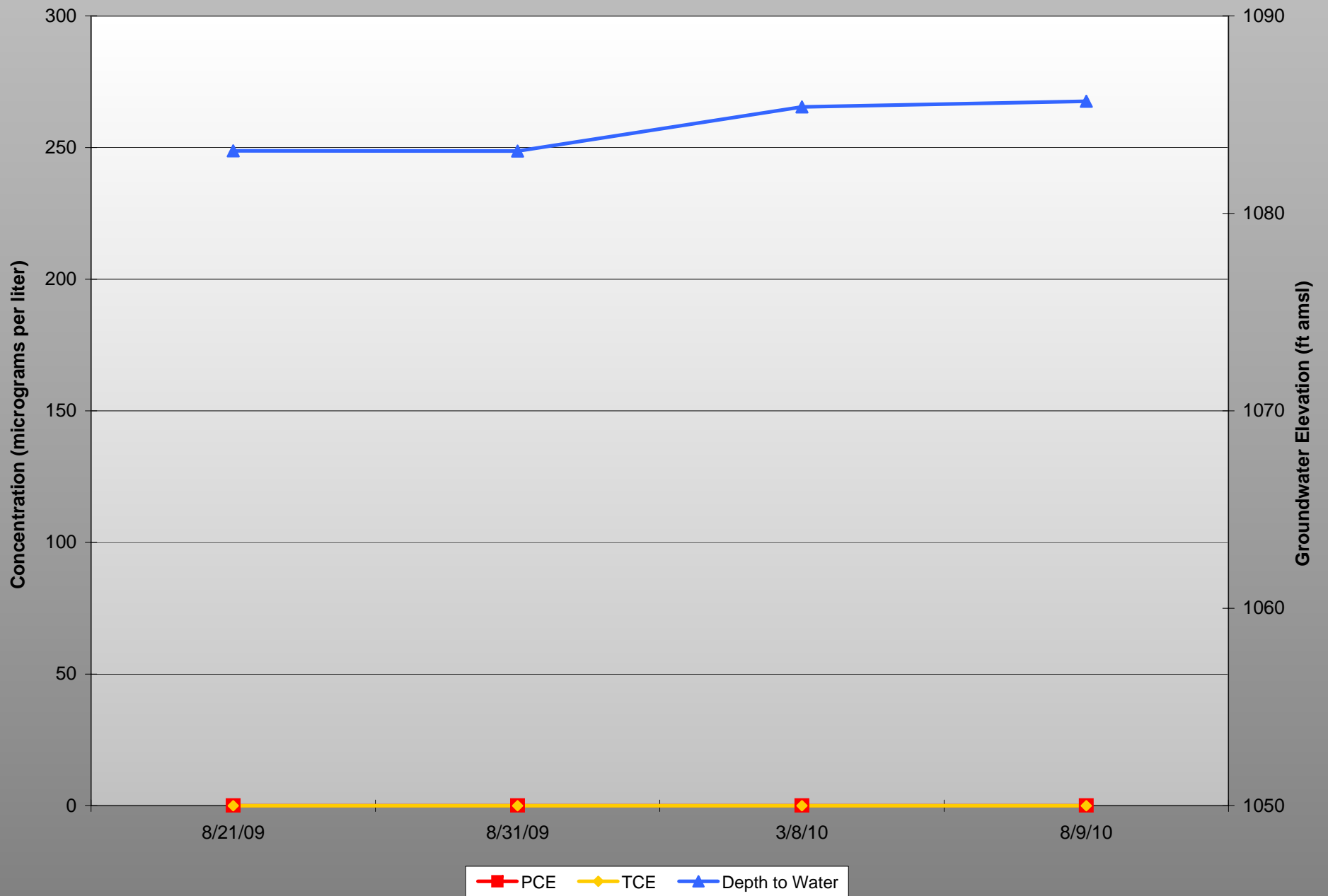
RE107 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



RE108 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility



RE109 Water Level and Concentration Data

Former Romic Environmental Technology, Inc. Facility

